Landscape in Connection with Tree Planting, No. 1.*

WHEN instructed taste goes hand in hand with cultivated nature, scenery may be *created;* by studying the varying forms, and seizing on what some author calls "accidents," graceful groups may be produced, full of intricacy, possessing a good sky outline as well as a gracefully fringed vista; if the position of the plantation has been well-selected, groups complete in themselves as to form, and conducive to the general effect, may certainly be calculated on.

A guide to the kind of trees to be selected for planting a landscape, requires study and experience. We hear it said, occasionally, that we have as good trees as any other country; our own opinion is, that we have better; and yet, variety, and those plants that are foreign to one's neighborhood, are required to produce the necessary effects. Loudon was among the first to insist upon this, though many had studied it out without having given expression to the fact. He taught that, in modern landscape-gardening, considered as a fine art, all the more important beauties and effects produced by the artist, may be said to depend upon the use which he makes of foreign trees and shrubs. His reasons for this are grounded on the principle that all art, to be acknowleged as such, *must be avowed.* This is the case in the fine arts: there is no attempt to conceal art in music, poetry, painting, or sculpture; none in architecture; and none in the geometrical style of landscape-gardening. Why, he asks, should there be an attempt to conceal art in modern landscape-gardening? Because, we shall be told, it is an art which imitates nature. But does not landscape-painting also imitate nature? and yet, in it, the work produced is acknowledged to be one of art? Before this point is settled, it is necessary to recur to what is meant by the imitation of nature, and to reflect on the difference between repetition and imitation. In what are called the imitative arts, it will be found that the imitation is always made in such a manner as to produce a totally distinct work from the thing imitated, and never, on any account, so like as to be mistaken for it. In landscape-painting, scenery is represented by colors on a flat surface; in sculpture, forms, which in nature are colored, are represented in colorless stone. The intention of the artist, in both cases, is not to produce a copy which shall be mistaken for the original, but rather to show the original through the medium of a particular description of art; to reflect nature as in a glass. Now, to render landscape-gardening a fine art, some analogous process must be adopted by the landscape-gardener. In the geometrical style he has succeeded perfectly, by arranging grounds and trees in artificial surfaces, forms, and lines, so different from nature as to be recognized at once as works of art. A residence thus laid out, is clearly distinguished from the woody scenery of the surrounding country; and is so far satisfactory, as it displays the working of the human mind, and confers distinction on the owner as a man of wealth or taste.

A residence laid out in imitation of the undulations of nature, and the trees scattered over it in groups and masses, neither in straight lines, nor cut into artificial shapes, might be mistaken for nature, were not the trees planted, chiefly of foreign kinds not to be met with in the natural or general scenery of the country. Everything in modern landscape-gardening, therefore, depends on foreign trees

* See Frontispiece.

and shrubs; and when it is once properly understood that no residence in the modern style can have a claim to be considered as laid out in good taste in which most, if not all, the trees and shrubs employed, are not foreign to the vicinity, or improved varieties of indigenous ones, the grounds of every country-seat will become an arboretum, differing only in the number of species which it contains.

We have had a series of single trees and groups prepared, to exhibit the beauties and the faults committed by planters, as well as to illustrate the necessity of looking forward to the well-ascertained effects that time will certainly produce by the growth of certain descriptions of trees and shrubs, planted either singly or together. Groups are often planted in scenery, yet seldom is it performed in a satisfactory way. Attempts of this kind, in which the trees being all of one size, and planted in the most circumspect mode, at measured distances, would sometimes lead one to suspect they had been planned by using a foot rule.

As the beauties and defects of grouping will be displayed to the eye in these illustrations, we shall at once refer to our first plate; this will be followed by fifteen other illustrations, in succession, and our brief remarks on landscape and planting, will perhaps be more fully understood when the whole, having been printed in this volume, shall be read consecutively by those who take pleasure in this interesting topic.

Grouping Trees.—In the arrangement of trees at the time of planting or thinning, two principles require to be respected: first, always to maintain a balance in the composition; and second, there should be form and variety in the groups themselves.

What is meant by maintaining a balance, may be thus explained: In a group, and especially a small one, the centre should appear the highest. A group of three (Fig. 1) is much more pleasing than if the lowest were placed in the centre, as in Fig. 2. Again, three trees of different heights, so as to appear like steps, one above another, forming a line, or nearly so, either at equal distances, or otherwise (Fig. 5), would be much less beautiful than if arranged as in Fig. 4. A group of five trees, or more, with one or two tall ones, placed near together, and pretty central, though some may have crooked stems, yet, if they rise perpendicularly, produce an agreeable and natural effect, as in Fig. 3. When two only are planted, they should be placed at least so close together as to intermingle their branches; but the best effect is produced when two are placed so near to each other as, to all appearance, to form but one tree, as in the Wych Elm (Fig. 6) and in another example of the Beech, in a future figure.

No one can plant a group of trees of considerable size, even for immediate effect, without, in the first place, having a variety of heights disposed somewhat in an irregular way. Thick planting must be resorted to in many instances, or how shall the pendulous inclination of stems or branches be produced that gives a graceful outline to the scene? The distance asunder must be carefully considered, or the unison in producing effect will be lost. The most pendulous or inclining forms must be left for the exterior of the groups, and so forth.

While the painter was studying nature only, the gardener, in the infancy of what is now called landscape-gardening, busied himself in cutting and slashing vegetation into all the most whimsical regular figures his ingenuity could invent. Geometry, with its lines and rules, was his text-book, while the artist seized upon nature in all her varied forms, and habits, and hues, exhibiting her as she appeared on the mountain steep, or in the secluded dell, by the reedy river-side, on the margin of the placid lake, or on the umbrageous hill.

Thus, at the same time, were painters and gardeners employed; each occupied by the same objects; the one forming real, the other painted scenery, but with

very different intentions; the first was enamored of "neglect and accident;" the other seriously annoyed if a single leaf projected from the smooth surface his shears had made. The love of fine pictures and gardening, however, kept pace with each other, as indeed they should and must do; at last, the style of the painter's landscape captivated the connoisseurs of taste; the admirable scenes presented on canvas, were extolled by those who had studied nature, though not painters themselves, because they were, while taking liberties with her, true copies in the main of real or combined scenes; when these were compared with the then existing most labored dispositions of the garden, the latter sunk in public estimation, and soon the cry was: "Why is not every gardener a painter?"

This impression was so strong after the new light broke in upon the minds of students, that Kent, a painter by profession, was induced to become a landscape gardener, though that professional title was not then invented. He had a difficult and unpleasant task, for he aimed at producing *immediate effect* on the lawn at Kew, as he used to do on his canvas; but he soon found this was impracticable, as he had to wait many years before he could possibly see the full results of his growing trees and shrubs. (*To be continued.*)

A SHORT ACCOUNT OF THE LIFE AND WRITINGS OF JOHN CLAUDIUS LOUDON.

BY HIS WIDOW.

(CONTINUED FROM PAGE 19.)

The Continent, after having been long closed to English visitors, was thrown open in 1813 by the general rising against Bonaparte, and presented an ample field to an inquiring mind like that of Mr. Loudon. After having made the necessary preparations, he sailed from Harwich on the 16th of March. He landed at Gottenburg, and was delighted with Sweden, its roads, its people, and its systems of education; but he was too impatient to visit the theatre of war to stay long in Sweden, and he proceeded by way of Memel to Konigsberg, where he arrived on the 14th of April. In this country he found everywhere traces of war: skeletons of horses lay bleaching in the fields, the roads were broken up, and the country houses in ruins. At Elbing, he found the streets filled with the goods and cattle of the country people, who had poured into the town for protection from the French army, which was then passing within two miles of it; and near Marienburg he passed through a bivouac of 2,000 Russian troops, who, in their dress and general appearance, looked more like convicts than soldiers. The whole of the valley between Marienburg and Dantzic he found covered with water, and looking like one vast lake; but on the hills near Dantzic, there was an encampment of Russians; the Cossacks belonging to which were digging holes for themselves and horses in the loose sand. These holes they afterwards covered with boughs of trees, stuck into the earth, and meeting in the centre as in a gypsy tent; the whole looking, at a little distance, like a number of huts of the Esquimaux Indians. He now passed through Swedish Pomerania; and, on approaching Berlin, found the long avenues of trees leading to that city filled with foot passengers, carriages full of ladies, and wagons full of luggage, all proceeding there for protection; and forming a very striking picture as he passed through them by moonlight.

He remained at Berlin from the 14th of May to the 1st of June, and then proceeded to Frankfort on the Oder. Here, at the *table d'hôte*, he dined with several Prussian officers, who, supposing him to be a Frenchman, sat for some time in perfect silence; but, on hearing him speak German, one said to the other, "he

must be English;" and, when he told them that he came from London, they all rose, one springing over the table in his haste, and crowded round him, shaking hands, kissing him, and overwhelming him with compliments, as he was the first Englishman they had ever seen. He then proceeded through Posen to Warsaw, where he arrived on the 6th of June.

Afterwards he travelled towards Russia, but was stopped at the little town of Tykocyn, and detained there three months, from some informality in his passport. When this difficulty was overcome, he proceeded by Grodno to Wilna, through a country covered with the remains of the French army, horses and men lying dead by the road-side, and bands of wild-looking Cossacks scouring the country. On entering Kosnow, three Cossacks attacked his carriage, and endeavored to carry off the horses, but they were beaten back by the whips of the driver and servants. At Mitton, he was obliged to sleep in his britzska, as every house was full of the wounded; he was awakened in the night by the cows and other animals, of which the inn-yard was full, eating the hay which had been put over his feet to keep them warm. He reached Riga on the 30th of September, and found the town completely surrounded by a barricade of wagons, which had been taken from the French. Between this town and St. Petersburg, while making a drawing of a picturesque old fort, he was taken up as a spy; and, on his examination before the prefect, he was much amused at hearing the comments made on his note-book, which was full of unconnected memoranda, and which puzzled the magistrates and their officers excessively when they heard it translated into Russ.

Mr. Loudon reached St. Petersburg on the 30th of October, just before the breaking up of the bridge, and he remained there three or four months; after which he proceeded to Moscow, where he arrived on the 4th of March, 1814, after having encountered various difficulties on the road. Once, in particular, the horses in his carriage being unable to drag it through a snow-drift, the postilions very coolly unharnessed them and trotted off, telling him that they would bring fresh horses in the morning, and that he would be in no danger from the wolves, if he would keep the windows of his carriage close, and the leather curtains down. There was no remedy but to submit; and few men were better fitted by nature for bearing the horrors of such a night than Mr. Loudon, from his natural calmness and patient endurance of difficulties. He often, however, spoke of the situation he was in, particularly when he heard the howling of the wolves, and once when a herd of them rushed across the road close to his carriage. He had also some doubts whether the postilions would be able to recollect where they had left the carriage, as the wind had been very high during the night, and had blown the snow through the crevices in the curtains. The morning, however, brought the postilions with fresh horses, and the remainder of the journey was passed without any difficulty.

When he reached Moscow, he found the houses yet black from the recent fire, and the streets filled with the ruins of churches and noble mansions. Soon after his arrival, news was received of the capture of Paris, and the entrance of the allied sovereigns into that city; but the Russians took this intelligence so coolly, that, though it reached Moscow on the 25th of April, the illuminations in honor of it did not take place till the 5th of May. He left Moscow on the 2d of June, and reached Kiov on the 15th. Here he had an interview with General Rapp, on account of some informality in his passport. He then proceeded to Cracow, and thence to Vienna; after which he visited Prague, Dresden, and Leipsic, passing through Magdeburg to Hamburg, where he embarked for England, and reached Yarmouth on the 27th of September, 1814.

During this long and interesting journey, Mr. Loudon visited and took views

of nearly all the palaces and large rural residences in the countries through which he passed; and he visited all the principal gardens, frequently going two or three days' journey out of his route, if he heard of any garden that he thought worth seeing. He also visited most of the eminent scientific men in the different cities he passed through; and was elected a member of the Imperial Society of Moscow, the Natural History Society at Berlin, the Royal Economical Society at Potsdam, and many others. I have often wondered that, on his return home, he did not publish his travels; as the Continent was then, comparatively, so little known, that a narrative of what he saw, illustrated by his sketches, would have been highly interesting. Business of a very unpleasant nature, however, awaited him, and probably so completely occupied his mind as to leave no room for anything else.

I have already mentioned that when Mr. Loudon went abroad, he had a large sum of money lying unemployed in his banker's hands; and with this he was induced, I know not how, to embark in mercantile speculations and underwriting ships at Lloyd's. As he knew nothing of business of this nature, it is not surprising that his speculations turned out badly; and, for more than twelve months, he was involved in pecuniary difficulties. I am unable to give all the details of his sufferings during this period, as it was a subject he never spoke of, and the allusions to it in his memorandum books are by no means explicit. It appears, however, that after having made several fruitless journeys (including one to Paris, in 1815) in the hope of recovering some part of the property, he was compelled to submit to the loss of nearly the whole; and that his health was very seriously injured by the anxieties he underwent.

About this time (1816), his mother and sisters left the country, and he, having determined that in future they should reside with him, took a house at Bayswater called the Hermitage, which had a large garden annexed. His health was now seriously impaired, but his mind always seemed to acquire additional vigor from the feebleness of his body; and, as he was unable to use so much exertion as he had formerly done in landscape-gardening, he amused himself by trying experiments relating to the construction of hothouses, and by having several of different kinds erected in his garden.

In August, 1815, a paper had been published in the *Transactions of the Horticultural Society*, by Sir George Mackenzie, of Coul, on the "Form which the Glass of a Forcing-House ought to have, in order to receive the greatest possible Quantity of Rays from the Sun." This form Sir George conceived to be that of a globe, but as it seemed impracticable to make a hothouse globular, he proposed to make the roof the segment of a circle. Mr. Loudon appears to have been very much struck with this paper, but he saw faults in the plan which he thought might be amended, and he tried houses with curvilinear roofs of various kinds, in order to ascertain which was the best. He also tried a house with what he called ridge and furrow glazing; a plan which has since been carried out on a magnificent scale by Mr. Paxton, in the Duke of Devonshire's splendid conservatory at Chatsworth. While these houses were in progress, he wrote a work entitled "Remarks on the Construction of Hothouses, &c.," which was published in 1817. Shortly afterwards he invented a new kind of sash-bar, of which he gave a description, together with sketches of the hothouses, and details of their construction, in a quarto pamphlet, entitled "Sketches of Curvilinear Hothouses, &c.," which was published in 1818. The profits of this bar he was to have shared with the ironmonger by whom it was sold; but, I believe, he never reaped any pecuniary advantage from it. He also published, in folio, another work, in the same year, entitled "A Comparative View of the Common and Curvilinear Modes of Roofing Hothouses."

He now seems to have determined on devoting his time principally to his pen;

and he began to collect materials for the well-known *Encyclopædia of Gardening*. It is probable that the first idea of this work had occurred to him while he was travelling, from the great number of gardens he had seen, and the various modes of gardening that he had found practised in different countries. At any rate, he determined to commence his work with a history of gardening, and a description of the gardens of various countries, introducing illustrative drawings engraved on wood, and printed with the text, this being, I believe, the first time any engravings, except mere outlines, had been printed in that manner. It was necessary, in order to complete his plan, that he should see the gardens of France and Italy, in the same manner as he had seen those of the North of Europe; and, for this purpose, he determined to set out on another tour, though his health was at that time so very indifferent, that one of his friends, who saw him at Dover, told him he looked more fit to keep his bed than to set out on a journey. Mr. Loudon, however, was not easily deterred from anything that he had resolved upon, and he proceeded by way of Calais and Abbeville to Paris, where he arrived on the 30th of May, 1819. After seeing everything deserving of notice in Paris, and becoming acquainted with many eminent men there, from the letters of introduction given to him by his kind friend, Sir Joseph Banks, he left, on the 10th of June, for Lyons, in the Botanic Garden of which city, he saw, for the first time, a living plant of the Vallisnèria, which had not then been introduced into England, and which he had only seen in a dry state, in the Hortus Siccus of Sir Joseph. From Lyons he went to Avignon, and then he visited the celebrated fountain of Vaucluse. Afterwards he proceeded to Marseilles, and thence to Nice, from which city he sailed, in a felucca, for Genoa.

During the whole of his tour through France, he visited the gardens everywhere, and made memoranda of everything that he thought would be useful for his intended work. He also made sketches of all the principal places, as he had previously done in the North of Europe.

Before leaving Genoa, he procured a collection of orange-trees, which he sent to England for his greenhouse at Bayswater. He also saw, for the first time, slate boxes used for orange-trees, in the garden of Signore di Negre, near Genoa. In this city, also, he first met with his friend, Captain Mangles; and joining him and the late Captain Irby, they travelled together along the shores of the Mediterranean, leaving Genoa on the 6th of July, in a felucca, for Leghorn, where they arrived on the 8th, and thence proceeded through Pisa to Florence. During the whole of this tour, Mr. Loudon's Journal is entirely filled with descriptions of the gardens he visited, observations on the different modes of culture he saw practised, and various remarks on the habits of plants. One of the latter, which appears to me worth recording, is, that he found Saxifraga crassifolia killed by a very slight frost in Florence, though it will bear a considerable degree of cold in more northern climates. From Florence he went to Rome, and thence to Naples; after which he visited Pompeii and Herculaneum, returning through Rome to Florence, Venice, &c. In these cities, he visited all that is generally considered worth seeing, and, of course, did not neglect his favorite gardens.

As soon as he reached home, he began the *Encyclopædia of Gardening*, at which he worked, with little intermission, till it was finished, though he was suffering severely at the time from chronic rheumatism in his right arm; the pain from which became at length so intolerable, that, in 1820, he was compelled to call in medical aid; and, being recommended to try Mahomed's vapor baths, he went down to Brighton for that purpose. Here, notwithstanding the extreme torture he suffered from the shampooing and stretching, he submitted to both with so much patience, that they were continued by the operators till they actually broke

his right arm so close to the shoulder as to render it impossible to have it set in the usual manner, and, consequently, it never united properly, though he continued to use his hand to write with for several years.

In 1822 appeared the first edition of the *Encyclopædia of Gardening*—a most laborious work, remarkable both for the immense mass of useful matter it contains, and for the then unusual circumstance of a great number of finished wood engravings being printed with the text instead of being in separate pages. This book had an extraordinary sale, and fully established the literary fame of its author.

In the early part of the year 1823, he wrote a work entitled "The Different Modes of Cultivating the Pine-Apple, from its First Introduction to Europe to the Improvements of T. A. Knight, Esq., in 1822."

About this time, also, a little work was published anonymously, called *The Greenhouse Companion*, which, I believe, was written, either entirely or in part, by Mr. Loudon: but it must have been by a wonderful exertion, if he did write it; as, during the whole of the year 1823, he suffered most excruciating pain, not only from his right arm, the bone of which had never properly united, and to retain which in its place he was compelled to wear an iron case night and day, but from the rheumatism which had settled in his left hand, and which contracted two of his fingers and his thumb, so as to render them useless. It is, however, worthy of remark, and quite characteristic of Mr. Loudon, that, at the very time he was suffering such acute bodily pain, he formed the plan of his houses in Porchester Terrace, Bayswater, and superintended the building of them himself, rising at four o'clock every morning, that he might be on the spot when the workmen came.

In 1824, a second edition was published of the *Encyclopædia of Gardening*, in which the work was nearly all rewritten, and very considerable additions were made to it. In the following year, 1825, the *Encyclopædia of Agriculture* was written and published. These extensive and laborious works following closely upon each other, in Mr. Loudon's state of health, speak strongly as to his unparalleled energy of mind. When, shortly after, his right arm was broken a second time, and he was obliged to submit to amputation, though he gave up landscape-gardening, it was only to devote himself more assiduously to his pen. He was, however, now no longer able to write or draw himself, and he was compelled to employ both an amanuensis and a draughtsman. Still, though he had only the use of the third and little finger of his left hand, he would frequently take a pen or pencil, and make sketches with astonishing vigor, so as fully to explain to his draughtsman what he wished to be done.

During the time that he was suffering so severely from the pain in his arm, he found no ease but from taking laudanum; and he became at last so habituated to the use of this noxious potion, that he took a wineglassful every eight hours. After the amputation of his arm, however, he wished to leave off taking it, as he was aware of its injurious effects upon his general health; and he contrived to cure himself by putting a wineglassful of water into his quart bottle of laudanum every time he took out a wineglassful of the potion, so that the mixture became gradually weaker every day, till at last it was little more than water; and he found he had cured himself of this dangerous habit without experiencing any inconvenience.

In 1826, he established *The Gardener's Magazine*, the first periodical devoted exclusively to horticultural subjects. This work was always Mr. Loudon's favorite, and the organ through which he communicated his own thoughts and feelings to the public. It was originally undertaken principally for the benefit of gardeners in the country, in order to put them "on a footing with those about the metropolis;" but it soon became the universal means of communication among gardeners, and was of incalculable benefit to them. It also became a source of great pleasure to

amateurs of gardening, and was, no doubt, the means of inspiring a taste for the pursuit in many who had before been indifferent to it. "In an art so universally practised as gardening, and one daily undergoing so much improvement," Mr. Loudon observes, "a great many occurrences must take place worthy of being recorded, not only for the entertainment of gardening readers, but for the instruction of practitioners in the art." That this work met the wants of a large class of readers, is evident from four thousand copies of the first number having been sold in a few days; and from the work having continued popular for nineteen years, and, in fact, till its close at the death of its conductor.

The Gardener's Magazine first appeared quarterly, afterwards it was published every two months, and finally every month. The second number of this work contained an attack on the London Horticultural Society, the affairs of which were then notoriously ill-managed, though, before the publication of *The Gardener's Magazine*, no one had ventured to complain of them publicly. In the same number appeared an article on the "Self-Education of Gardeners," in which Mr. Loudon began those earnest exhortations to gardeners to improve themselves, and those efforts to put them in the way of self-improvement, which he continued almost to the last hour of his life. He also, in this second number, gave a plan for the improvement of Kensington Gardens, and suggested the erection of "small stone lodges with fireplaces at the principal garden gates, for the comfort of the door-keepers in winter," as, before that time, the door-keepers had no shelter but the alcoves; and he proposed that at least once a week a band should play in the Gardens, and that the public should be able to obtain the convenience of seats, as in the public gardens on the Continent. In the third number of the *Magazine*, he began a series of articles on "Cottage Economy," and invited young architects to turn their thoughts to the erection of cottages, as well for laborers as for gardeners, which should be not only ornamental enough to please the gentlemen on whose grounds they were to be erected, but comfortable to those who were to live in them. These hints were followed up by many gentlemen: and I think I never saw Mr. Loudon more pleased than when a highly respectable gardener once told him that he was living in a new and most comfortable cottage, which his master had built for him—a noble marquess, who said that he should never have thought of it, but for the observations in Mr. Loudon's *Gardener's Magazine*, as they made him consider whether the cottage was comfortable or not, and that, as soon as he did so, he perceived its deficiencies. In the fourth number of the *Gardener's Magazine*, the subject of the reform of the Horticultural Society was resumed, and it was continued in the succeeding numbers till 1830, when the desired result was at length effected.

Both in the early volumes of the *Gardener's Magazine* and in the *Encyclopædia of Gardening*, Mr. Loudon had strongly advocated the necessity of having garden libraries, and, in the second volume of the *Gardener's Magazine*, he gave a list of books he considered suitable for a garden library, in which he included the *Encyclopædia of Plants* and the *Hortus Britannicus*—works then written, though they took so long in printing, that they were not published till two or three years afterwards. It is very gratifying to find that numerous garden libraries were established in different parts of the country, in the course of two or three months after they were first suggested in the *Gardener's Magazine*, and that several letters appeared, from working gardeners, on the advantages and improvement which they had received from the books they thus obtained access to.

(*To be concluded.*)

VISITS TO COUNTRY PLACES.—No. 7.

AROUND BOSTON.

THE neighborhood of Boston stands very high as a horticultural region; probably more exotic grapes are grown there, within a circuit of ten or fifteen miles, than within the same distance around both New York and Philadelphia; we heard the weight estimated at forty tons some years since, and great additions to the glass structures of the vicinity have latterly been made.

The interest in the products of the garden and greenhouse, manifested by the members of the Horticultural Society, and the citizens generally, is shown by their attendance on a weekly exhibition of fruits and flowers, which is well sustained, and very useful in extending a knowledge of what is passing, and in season, and in keeping up a generous rivalry. The weather, while we were there, was unpropitious for sight-seeing, but our horticultural party, somewhat reduced in numbers, took several opportunities of visiting the neighborhood, and accepting the kindest hospitality. To complete the list, however, it will be necessary to take another occasion, and a longer time, to describe so celebrated a region. At present, we can only give the results of a few brief notes hurriedly taken.

H. Hollis Hunnewell, Esq.'s country residence, near the station of the Worcester Railroad at West Needham, presents, for a new place, evidences of great enthusiasm and success in planting. The neighborhood is the scene of the labors of that eminent missionary among the Indians, Elliot, who was the printer of the extraordinary Indian Bible, which was his great labor of love for the aborigines. Its press-work, if we remember rightly, was done by a poor Indian boy, and the whole was executed under difficulties such as would appal a modern typographer. Those noble old elm-trees, which were planted by the natives in front of their minister's house, in Natick, near Mr. Hunnewell's, still stand as mementos of the gratitude of the converted red men. The trees in this vicinity are remarkably fine and numerous, and evidences exist in every direction of great progress and improvement.

Mr. Hunnewell has a large farm, and has devoted a considerable portion of it, most judiciously, to ornamental planting. Not having so great a variety of trees to select from as we have in the Middle States, he has brought together such as are hardy in Massachusetts with a liberality which promises to produce very great results. His noble mansion is situated on the banks of a very fine lake, which possesses the advantage of considerable depth, and being supplied with abundant water, is perfectly free from any unwholesome exhalations, is well stocked with fish, and efforts are making to introduce other varieties, by using spawn imported from France. This subject, we are glad to know, is employing the thoughts and purses of many Americans, and we anticipate the happiest results. Mr. H.'s dwelling stands high above the lake, to which a terraced garden, interspersed with fountains, and gay with luxuriant flower-beds, leads the visitor almost imperceptibly. Inclosing these beds we noticed an arrangement which was new to us—that of the use of large square iron castings for borders; these are cast thinly, with raised figures on the outer sides, and being light, can be moved from place to place as required; they give a neat look, occupy almost no space, and may be employed wherever box edging, which we prefer, will not flourish.

The fountains, as well as water for the whole place, are supplied by a steam engine of three horse power, which will pump 30,000 gallons a day, and grind at the same time. This engine cost $500; with the mill, $700; but at the present

moment, so much has this useful machine been simplified, an engine on wheels, of the same power, can be purchased for perhaps half the money. It is a most desirable acquisition to a country place.

We have already recorded Mr. Hunnewell's eminent success with the Stanwick nectarine; his graperies, peach-house, greenhouse, and gardens, are entitled to high commendation; Mr. Harris, his gardener, is a most intelligent cultivator; he reads and studies his subject, and we could not but remark the greater intelligence everywhere between the reading and the unlettered controllers of gardens; all the difference, in short, between knowledge and stupidity; ten words uttered betrays the difference. Mr. H.'s grapes were equal to any we have ever seen, both in weight, color, and flavor.

Mr. Hunnewell showed us several successful attempts in trimming into shape a tree, which would have been one of the last we should have thought of attempting. The White pine, taken young, bears shearing in a most wonderful manner; it has been made to assume various fantastic as well as ornamental shapes, such as no one, who had not seen or heard of it, could have anticipated. If this can be effected with so loose and open a tree, what may we not expect might be accomplished with the Bhotan or Pinus excelsa, with its closer habits, and more numerous branches and leaves. Altogether Mr. Hunnewell's residence promises to become, as it already partially is, one of the most attractive "around Boston."

It is a great treat to the Horticulturist to pass a day at Dorchester with Marshall P. Wilder, the efficient President of the Pomological and Agricultural Societies. His premises do not comprise more than twenty or twenty-five acres, but they exhibit an industry and results of high culture, in a climate of some more difficulty that our own, that might prove a useful example. His collection of Pear and other fruit-trees is world-renowned, and justly so; among the new, from which good is expected, we pencilled the names of Buerré de Wael, Conseller de la Cour, Triomphe de Pomologie, Emile d'Heyst, Pius IX., Beurré Wetteren, Henri Bivort, Poire de Nonnes, and Dorothée Royale Nouvelle; as these are new and just fruiting, we are promised descriptions when the time of the Colonel, so fully occupied, permits. Mr. Wilder has given his views on the subject of pear culture, dwarf and standard, in his address at Rochester, and published in the November *Horticulturist*, so that we need not enter upon it now; he has pears on dwarfs of twenty-five years' standing in full health and bearing, as he says, to answer any doubts on that subject.

Mr. Wilder cultivates, as the best Raspberries, Orange, Cushing, and Knevet's Giant; Strawberries, Burr's New Pine, which is fully as early as Jenny Lind, and "best;" the Monroe Scarlet, as promising well, and nearly as early. He considers Jenny's Seedling one of the most desirable varieties, coming in rather late. Of Currants, we found here the following new sorts: La Fertile, Hartif de Bertin, Versailles, Precoce de Tours, Caucase, Goundin White, and Cerise Rouge.

In the address we have already alluded to, will be found Mr. Wilder's views on fruit-rooms, and we have only in conclusion to remark on his fine collection of Camellias; the specialities of his greenhouses are Wilderii, Mrs. Abbe Wilder, Maria Louisa, Grace Sherwin, Glory, &c. &c.

The late Mr. Becar, of New York, a friend of Colonel Wilder, has left a new and splendid Camellia, to be dedicated to the memory of the late Mr. Downing, in which all lovers of horticulture will take a warm interest. Mr. W. agreed with us in thinking it might be well to employ the proceeds of this elegant plant in founding some experimental garden, or in a gold medal for extraordinary merit. We should be glad to know what were Mr. Becar's views on the subject.

Kernwood, the residence of Mr. Peabody, near Salem, is quite remarkable, from

the good taste shown in the arrangement of the grounds, the planting, and the pretty English pastoral character of the views, as well as from the interior decorations and embellishments of the house, most of which, we understand, were by Mr. Peabody's own hands, and many of the cabinets, mantlepieces, &c., being either actually carved by him, or designed and executed under his immediate supervision, with a degree of excellence little inferior to the best German artists.

Linmere, the residence of R. S. Fay, Esq. We well recollect, some years since, Mr. Hovey's interesting description of the trees which Mr. Fay (then in England) sent out, and many of which now must doubtless be fine specimens. If we remember right, Linmere resembles somewhat, in its general characteristics, Mr. Hunnewell's place at Natick, only much larger, there being 500 acres or more in the estate, mostly surrounding a lake; as yet Mr. Fay has not commenced his improvements in building, having principally devoted himself to planting large tracts of land and the various hillsides with larches, Scotch firs, &c., of which many thousands have, we learn, been set out. If Mr. Fay builds a house and carries out all his improvements, Linmere will resemble more entirely a large Scotch estate than perhaps any place in this country, the natural character of the lake and hills resembling portions of Scotch scenery, which will be still more the case when the Scotch firs and larches become more effective.

The residences of the late Col. Perkins, Gen. Lyman (now, we believe, in possession of his son, and celebrated for its beautiful avenue, one of the finest in the country), Mr. John E. Thayer's, with a very remarkably fine house, built by Upjohn, James S. Amory's, Mr. J. L. Gardener's, should be enumerated, as well as Mr. Lee's, whose lawn Mr. Downing celebrated so many years since; "Pine Bank," the beauties of which a late number of Hovey's Magazine so well and ably describes, Ignatius Sargent's, celebrated for its grapes almost fabulous in size and weight, "Belmont" (Mr. Cushing's), which all admirers of horticultural success know so well. *All these*, and many more we had no time to see, or did see so imperfectly, that we shall postpone all description of them until we can do them better justice. We cannot, however, omit saying, that for general excellence of cultivation, for universal good keeping, and the most distinguished success in all they undertake, the residents of the environs of Boston still continue to bear away the palm, as they have done for a quarter of a century.

We paid a short visit to the Botanical Garden at Cambridge, which is under the control and excellent management of the eminent botanist, Dr. Asa Gray, and were extremely gratified with the order and neatness, no less than with the great variety of plants and trees here assembled. These would be much more numerous but for the impediment of climate, and yet, with this disadvantage, the student will find here much that is new and interesting.

We found Dr. Gray busily engaged in preparing a work on American trees for the Smithsonian Institute—a book not yet announced, and one which, from the difficulties of procuring correct engravings, and the accuracy which characterizes all that Dr. Gray does, will, we presume, be a long time in execution.

Hovey's Nurseries.—We called, on the way to Dr. Gray's, at the house of Professor Longfellow; then visited the extensive nurseries of C. M. Hovey & Co. Their pear-trees, both dwarf and standard, are among the best we have ever seen, and produced fine results in 1856. Mr. Hovey is a firm believer in dwarfs, and those who know him, know with what enthusiasm he enforces a favorite theory. In the morning we had found him superintending a large show of fruits and flowers in Boston at the weekly exhibition, and here he was again directing and superintending one of the most extensive commercial establishments in the Union, one, indeed, that has exercised no inconsiderable influence on our country's

progress. We noticed here the new strawberries, Sir Harry, Sir Charles Napier, and Admiral Dundas, which have been so popular abroad. We noted also, a new Lantana, Lutea superba, which will command attention, as will Ardisia fructo alba, and a hardy Erica, E. vulgaris, which withstood the dreadful winter of 1855–56. Mr. Hovey has a new seedling Arbor vitæ, somewhat like Aurea, but which promises to be more valuable; many seedling varieties of Azaleas, yellow, &c., and hardy; he has found Cephalotaxus and Podocarpus hardy. A new weeping elm, a cut-leaved oak, and the weeping *fountain* willow, a new and most beautiful tree, the purple sycamore, &c. &c. &c., we find noted in our hasty pencillings, and here, as well as at Dr. Gray's, we saw with great admiration the neglected Rhododendron punctatum, a native variety, loaded with flowers, and of a pendulous habit. Mr. Hovey has a fine stock of Siberian Arbor vitæ, and also of Virgilia lutea. In short, this establishment deserves well of the country, and is to Boston what Mr. Buist's is here—a never-failing resource for new plants. Every department receives attention, though, of course, there are *specialities*, which they attend to more as personal matters, than as nurserymen. Among fruits, the speciality is the *Pear*, of which they have an immense collection, including *every known variety* to be found in France, Belgium, or England, and of *native* kinds by far the most complete collection, embracing over *one hundred* sorts. Nothing remains to be added but the new kinds, as they yearly make their appearance.

But they pride themselves on their collection of specimen trees, numbering *twenty-five hundred*, the oldest planted in 1842; these are all bearing trees, planted *round* the grounds, and not through them. The crop of pears in 1856 was 500 bushels, quite equal to any produce in Europe.

Of apples, they have one long walk, bordered on each side with 300 trees, of that number of varieties, and now just coming into bearing; they were set out in 1844, but as they prune them in to make dwarfs of them, they are very slow in bearing.

Among shrubs, their speciality is the collection of "American Plants," as the English call them, viz: Rhododendrons, Azaleas, &c. No such collection is to be found except at Bagshot, and the great American plant growers around that part of the vicinity of London. They have many hundred *flowering* plants of all the best Belgian and English hardy sorts, and thousands of seedlings of their own. The ground is peaty (one part of it), and they grow in perfection.

Among hardy plants, a speciality is the herbaceous Pæonies, of which they have great quantities, including the very latest new ones; and another, and perhaps greatest of all in the ornamental department out-doors, is their Japan lilies, of which they had two beds of 1000 bulbs, embracing some of the finest seedlings yet known. One bed was a treat well worth going from Philadelphia to see. These are favorite flowers, and much time has been devoted to the production of new sorts by hybridization with the native hardy and old Tiger species; these seedlings partake of the hardy character of those, while they are far more brilliant than the imported Japan plant.

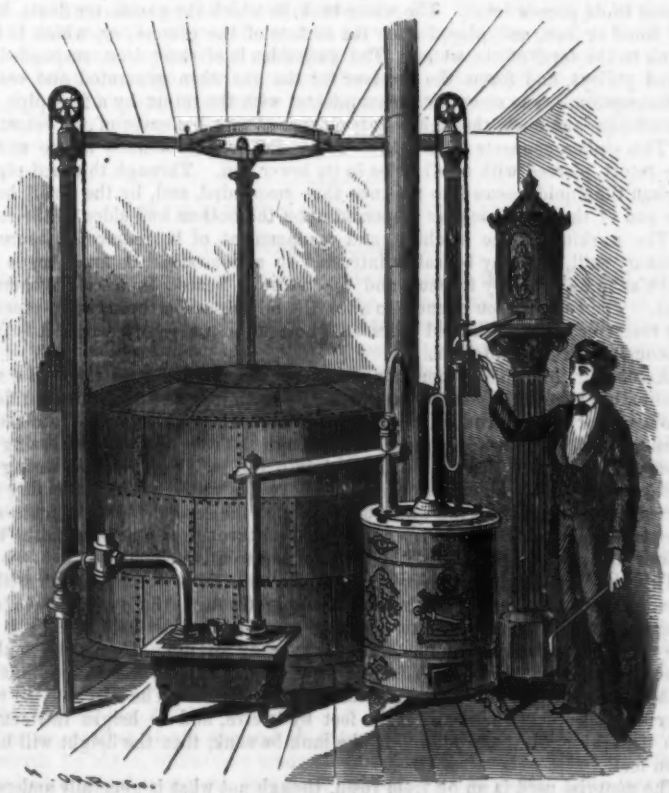
In doors, the speciality is the Camellia, of which they have a most extensive collection of some 300 varieties, and upwards of twenty seedlings, among which are some very superior kinds. Two of them they intend to offer for sale this year; one is a remarkable production, having flowers of four colors on the same plant, and holding that character now in the fifth year of its flowering. Another is almost a scarlet; the Mass. Hort. Soc. gave them the medal of $60 for this about three years ago. Drawings of them will soon be sent out. Such are some of the more prominent things noted at this establishment, where, however,

they do not neglect any of the numerous classes of plants which make up a collection.

In our next "ramble," we shall be obliged to change our locality, having, for the present, exhausted our Boston notes, without having mentioned a tithe of its horticultural importance. We neglected to take notes of exhibitions of the Massachusetts Horticultural Society, but they are published, and such lists will scarcely keep.

GAS FOR COUNTRY HOUSES.

We have already noticed the fact that very many country people are introducing gas of their own manufacture, and that, after the first outlay for the fixtures, the gas costs less than the price paid by citizens. So much is the custom on the increase, that several manufactories exist, in different places, for preparing the apparatus. We shall take that of the "Maryland Portable Gas Company" as our illustration, and merely state that the simplifying of the machinery has been attended with



such success, that the difficulties and dangers of the manufacture have vanished, and a new era in the mode of lighting private dwellings, churches, hotels, public and private schools, villages, factories, &c., has been opened. Gas lights, heretofore considered a luxury only to be enjoyed by those residing in cities, can now be employed in every place. Simplicity, safety, and economy, have been studied, and the results are so satisfactory that we anticipate a large business for the manufacturers, and increased orders for gas fitters.

Our illustration represents a simple cylindrical vessel, containing the oil from which the gas is generated. The retort is an iron, hollow cylinder, with a spheroidal bottom and flat cover, bolted and screwed to a projecting rim. The stove containing the retort is of sheet or cast iron, arranged upon the most approved plans, to economize the heat. The siphon box, or condenser, is a cast-iron vessel, with a movable lid bolted and screwed upon it. This is divided into compartments, and half-filled with water, with a siphon attached, so as to keep the water at all times to its proper level. The water tank, in which the gasometer floats, is made of wood or iron, and placed upon the surface of the ground, or, which is better, sunk to the level of the water. The gasholder is of sheet iron, suspended upon fixed pulleys, and forms the receiver for the gas when generated and ready for consumption. The reservoir communicates with the retort by a feed-pipe, or by a feed-pipe and cock, through a siphon screwed into the cover of the retort.

This siphon connects with a tube suspended perpendicularly in the middle of the retort, pierced with small holes in its lower end. Through this feed-pipe and siphon the liquid passes into the tube thus suspended, and, by the small holes at the end of the tube, becomes dispersed upon the bottom and sides of the retort.

The working of the machine, and management of it, require no more than ordinary skill, and may be safely intrusted to a domestic. A fire is made in the stove as in an ordinary furnace, and the retort is heated to a bright cherry-red heat. The cock is then opened, to allow the oil to pass in through the pipes from the reservoir upon the heated sides and bottom of the retort, where it is instantaneously converted into gas.

Ascending from this decomposing chamber, the gas is forced through a superstratum of chemical substances suspended upon an iron grating for its purification into a vacant upper chamber, thence it is conducted by an iron pipe into the condensing box. This iron pipe, passing through the cover of the condensing box, descends below and discharges the gas into the water of the condensing box. Thence it rises into the vacant chamber above the water, which, becoming filled, forces the gas again into the water under one of the several compartments above referred to, into a second chamber, and then on through consecutive baths before it finds its exit from the last of the series of consecutive chambers.

This exit is through a pipe which communicates from the condenser with the water tank into which it enters, and, passing through the water above, again descends, and discharges the gas into the water for its last bath, thence it rises into the vacant chamber of the gasometer, ready for use. Connected with the siphon of the condenser is a small covered vessel, which receives the impurities washed from the gas in its passage through the baths. The machine, as above described, occupies a space of eight feet by twelve, and in height thirteen feet, with the tank upon the ground. If the tank be sunk, then the height will be but seven feet.

The material used is an oil from rosin, though not what is generally understood as rosin oil. It is an earlier, cheaper, and better product of collophony, decomposable at a lower, and therefore more economical degree of heat. There cannot be found, in the whole range of chemistry, a compound more richly laden with

illuminating qualities, or yielding gases more innocuous in respiration, or less injurious to furniture, for it contains neither carbonic acid nor sulphuretted hydrogen.

The supply of this material is inexhaustible, and any anticipated demand can scarcely enhance the price. It is now delivered at the Company's Works, in Baltimore, at eighteen cents per gallon. Each gallon of the raw material may be safely estimated to make one hundred cubic feet of gas from this machine. The apparatus, as above described, with a gasometer of the capacity of a hundred and thirty cubic feet, will contain an average of a week's supply, to an ordinary family, the year round, and is sold at the Company's Works, in Baltimore, complete, for $350. They are made, however, of any required capacity, and adapted, in form and size, to the necessities of the space they are to occupy, and the requirements of the burners they are to supply.

Of course these requirements and necessities are so varied, and so materially increase or lessen the cost of the whole machine, that it is difficult to furnish a tariff of prices suited to all occasions; and persons intending to employ this apparatus, will of course address the manufacturers, who have spent much time and money to bring about the results now consummated. The principle and its application through this machine, are now no longer a matter of mere experiment. We congratulate the public on this new source of comfort being perfected, and brought within the reach of country families.

NIGHT TEMPERATURE.

BY AMICUS, PHILADELPHIA.

Facts have been found sufficient to demonstrate that it is the purpose of nature to reduce the force which operates upon the excitability of vegetation at that period of the twenty-four hours when, from other causes, the powers of digestion and assimilation are suspended. As far as is at present known, that power is heat, and, therefore, we must suppose that, to maintain, at night, in our hothouses a temperature at all equal to that of the day, is a practice to be condemned. Plants will, no doubt, lengthen very fast, at night, in a damp heat, but what is produced at this time, seems to be a mere extension of the tissue formed during the day, and not the addition of any new part; the spaces between the leaves are increased, and the plant becomes what is technically and very correctly called "drawn," for, as has been justly observed, "the same quantity only of material is extended to a greater length, as in the elongation of a wire."

Some observations made in the garden of the London Horticultural Society, a few years since, place this in a striking light. Certain plants were placed for some weeks in a stove, with a high night temperature supposed to average 69°; the rates of growth, in inches, showed that they grew as fast by night as by day; but, when the same kind of plants were grown in the open air, the growth was double or treble by day what it was at night, and continued observation of many plants produced the curious result that the total growth, by night, in the open air, was 119.07, and by day, 337.16.

Thus we see that plants exposed to natural circumstances only made one inch of growth by night, while they made three by day; but that, on the contrary, under bad artificial treatment, they grew *equally day and night.* The inevitable consequence of this inversion of natural growth, is immature or unripe wood, with imperfect, ill-constructed buds, and a feeble constitution, incapable of bearing the shock of great falls of temperature. More especially, water accumulates in the

system, and is never decomposed or removed by perspiration, in the requisite degree. In short, plants growing fast by night, can neither ripen their wood nor form their inner structure well, and, therefore, they are incapable of developing their natural beauty, or of resisting those extremes of temperature which are natural to them.

That greenhouses ought not to be heated at night more than is sufficient to exclude the frost, is certain; that, if properly prepared, plants will bear frost, is also indisputable, as, indeed, is proved by the camellias, Chinese azaleas, and other plants, which are kept in cold frames through the hardest winters, and where they thrive far better than in greenhouses.

With stove plants it is different; experiments are needed to determine how much cold they will bear at night. There seems to be no doubt that the colder they can be safely kept, the better for their health. A celebrated gardener assures me that he keeps his stove plants, during the winter months, at no higher temperature than from 40° to 50°; it is true, his employer desires late-blooming plants, but he has the roof covered with creeping stove plants, including Cambretums, Bignonias, Passifloras, Stephanotis, &c. When the warm days of spring return, they break with unusual vigor, enjoying, as they do, almost a natural climate; his Bignonia venusta is covered with bloom, and the Stephanotis blooms in July—the Passifloras throughout the year.

These facts are deeply interesting, and may serve for hints to those gardeners whose employers reside in the city in winter; they may have a gay house when the family returns in the spring.

A FEW WORDS ABOUT SICKLY PEAR-TREES.

BY THE LATE A. J. DOWNING.

I FIND, on looking about my garden, talking with fruit growers, and looking through the pages of your paper, that it is an undeniable fact, that a good deal more difficulty is experienced in cultivating the pear than any other of the popular fruit-trees.

The time was, indeed, when pear-trees—great, strong, lofty trees, too, though the fruit was rather *chokey*—grew around every farm-house, bore cart-loads of fruit annually, and were looked upon as able to "stand more hard knocks" than even an apple-tree. Longer lived the pear-tree certainly is, by nature; and, as standing venerable proofs of this, I refer you to the Endicott Pear-tree, near Salem, and the Stuyvesant Pear-tree, in New York. As both of these trees are above two centuries old—by veritable records—it is not worth while to spend time in proving that the pear is, naturally, a long-lived tree.

But, in fact, natural pear-trees—that is to say, the chance seedlings of the common pear that spring up by the sides of lanes and fences—are as hardy and as great bearers now as they ever were. What, then, is the matter with all the sorts whose tenderness our fruit growers groan over?

Is it not owing to the delicate constitutions which these foreign varieties, bred in a more regular climate, have, and which makes them peculiarly alive to our great excesses of heat and cold?

Is it not true, in rich and deep soils, where delicate trees are forced into a sappy condition, when the limbs are too full of juices, upon which the frost or sun acts readily, that blight and other diseases of the pear are most frequent?

Is it not true that foreign varieties of pear, especially those originated within

the last few years, are far more delicate and liable to disease than native sorts of equal merit, raised from seed in this country?

I throw out these queries to set some of your ingenious and practical correspondents, in various parts of the country, at work to furnish materials for answers that will settle some knotty points. For my own part, I have made up my mind that, to grow fine pears for profit, we must, in order to save the trees and keep them sound, keep the trunks and leading branches covered with a light *sheathing of straw* all the year round. This guards the bark of the principal parts of the tree from all excesses of heat and cold. I have experimented for four years past with this plan of sheathing, and can say that I am quite satisfied with it. Among three dozen pear-trees now just come into bearing, one-third of them have been kept in straw, and not a single one of that dozen has suffered by blight or other disease; while, of the remaining two dozen, nearly one-half have dropped off, and been dug and consigned to the brush heap. Some careless farmer or gardener—fond of *shirking* everything that he can—will say: "But who can take the trouble to straw all his pear-trees?"

You can, is my reply. Try it on half a dozen trees, and keep an account of the time and labor spent in it. It will amount to a few cents per tree—not the price of half a peck of Virgalieus in the York market. And if you can gather pears by the cart-load—for no fruit ripens better, or has a higher flavor, than the pear, in this climate—if, I say, you can gather pears every year by the cart-load for only the trouble of strawing the trees, then the blight take you if you are too lazy to do it!

AN OLD DIGGER.

FROST, AND THE CUNILA MARIANA (*L.*), OR DITTANY.

BY J. STAUFFER, MOUNT JOY, PENN'A.

THE common Dittany, a perennial of the Mint family, with small, purplish flowers, in corymbed cymes or clusters, growing on dry hills from New York to Kentucky, is too well known to require any further description.

In August, we frequently observe a capsular body amid the ordinary fructification and flowers of this plant, which was first pointed out to me by Prof. S. S. Haldiman, desiring me to pay attention, and try to discover what insect produces the excrescence. Notwithstanding my desire so to do, I have not succeeded.

December 6, 1856, happening to pass through a wood of chestnut sprouts interspersed with the red cedar, near the Willistown Baptist Meeting-House, in Chester County, I observed the dry remains of stems, foliage, and fruit, of quite a number of plants of this species, with the expectation of finding, at this late season, the empty cells or larvæ of the insect. I made diligent search, but could find no trace of such a pod-like excrescence. What, however, amply recompensed me for the attention bestowed, was the discovery that this plant is peculiar, and is truly a *frost plant*, far exceeding the Helianthemum Canadense, or *Frost-Weed*, as it is popularly called, from the fact that, late in autumn, crystals of ice shoot from the cracked bark at the root.

Our Cunila has attached to the stem a shell-work of ice, of a pearly whiteness, beautifully striated, sometimes, like a series of shells one in another—at others, curved round on either side of the stem like an open, polished, bi-valve; then, in others, again, curled over in every variety of form, like the petals of a tulip. Though one o'clock P. M., and the sun shining brightly, I carefully took up several specimens, and conveyed them three hundred yards, to the dwelling of Mr. Griffith, and exhibited the frost flowers to the family. No other herb or grass had any

such frost-work around them, having paid particular attention; while at least fifty specimens of the Cunila examined were so ornamented.

We naturally speculate as to the cause. On tasting the ice, no aroma was perceptible; the root manifested a vigorous young bud under ground.

Plants, in germinating, have the power of generating heat. That the atmosphere absorbs caloric from bodies, and deprives them of fluidity in the form of vapor, is well known, and this vapor, congealed, we call frost. This heat is evinced by the more speedy melting of snow, when in contact with their leaves and stems, compared with what is lodged upon inorganic bodies, provided the preceding frost has been sufficiently permanent to cool those substances thoroughly.

Mr. Hunter has tested this fact by the rise of the thermometer; and Lamarck mentions an extraordinary degree of heat evolved about the time the Arum maculatum bursts its enveloping sheath. This is the case with our common Indian turnip—the Arum triphyllum also.

Though this may not be observable by our sensation of feeling, we are not to suppose it absent; even the thermometer only enables us to judge of the state in which the caloric is, with relation to surrounding bodies, without regard to its quantity.

That vegetation is not wholly suspended, however cold, as some suppose, is clearly proven by the experiments of Hales and Du Hamel; but there is a regular and gradual progress till the returning warmth of spring gives a degree of velocity to the juices, rendering their development more vigorous and apparent. The power of cold on vegetables is well known, and, though the frosts of severe winters are, on the whole, more injurious to vegetation than those of spring, yet the latter are productive of more extensive damage, because their effects are evident almost every year. Frosts act more powerfully on ground newly cultivated, on account of the vapors continually ascending from such soil. Trees recently cut, also suffer more than others from spring frosts. Hence, likewise, light and sandy soil are thus more frequently damaged than tough land, though both may be equally dry.

Although it has been generally believed that frost meliorates the soil, and especially clay lands, yet, as ice contains no nitrous particles, such improvements can only be of a transitory nature, by enlarging the bulk of some moist soils, and leaving them more porous for some time after the thaw; but when the water has exhaled, the ground becomes as hard as before, being compressed by the incumbent weight of the air.

To conclude, for the benefit of some I will add, that Mr. Baum found, by immersing quart bottles, filled with newly-distilled liquors, into a mixture of pounded ice and sea salt, for six or eight hours, the spirit proved as grateful to the palate as that which had been kept for several years. Geoffroy remarks that simple waters, also, acquire a more agreeable flavor after having been for some time exposed to the effects of cold. The effects on beef, poultry, &c., are known to everybody.

[Dr. Darlington, in his *Flora Cestrica*, says of the Cunila: "In the beginning of winter, after a rain, very curious *ribbands of ice* may often be observed attached to the base of the stems—produced, I presume, by the moisture of the earth rising in the dead stems by capillary attraction, and then being gradually forced out horizontally, through a slit, by the process of freezing."]

GARDEN VEGETABLES NO. 2.—THE CAULIFLOWER.

BY WILLIAM CHORLTON.

We do not always find that this delicately flavored esculent is either grown or cooked in the best manner; a few remarks may, therefore, be useful respecting it.

The Cauliflower is generally considered to be only one of the many forms of the diversified cabbage, the primitive type of which is a small, open-leaved, cruciferous, yellow-flowered plant, found growing wild upon the cliffs near the seashores of Britain, and known to botanists as *Brassica oleracea*. There is, perhaps, no genus of plants which presents more singular peculiarities than this; for, while the different varieties can be, and are continually, kept true to sort from seed, the whole will most readily fertilize while in blossom with each other; and it is further necessary that only the most correct samples should be allowed to produce flower, if the best quality be required in the after progeny. Owing to our excess of heat during the summer, the seeds are generally defective, and, in most cases, entirely abortive, and we have to depend upon the milder climates of Europe for a supply. This being the case, small growers are entirely at the mercy of the seedsman; and as, to say the least of it, some seed-growers are not over particular, it behooves those who import to be careful from whom they purchase. The seed lists contain a number of varieties of *Cauliflower proper*, but, if all be obtained, the difference, if any, that will be found, is only a deviation of quality; so that, if we get the best in this respect, we shall have fine heads with good culture.

The Cauliflower cannot be grown to perfection under the shade of trees, near a building, or close to a fence. An open, clear spot should always be chosen; it delights in a rich, well-worked, and porous soil. Fresh land, well manured, is to be preferred, and burnt turf sods, or vegetable refuse, in addition to barnyard manure, is of much service, and if, besides this, a liberal supply of liquid drainings from the dunghill be given while growing freely, the plant will be enabled to bring out its greatest excellence. An ordinary sample may be got with slight manuring, but, like all other garden products, the best practice is here found to be most economical.

In some parts of Europe, cauliflowers may be had all the year round, but, during the hottest part of our summers, if the same were to be attempted, we should only get a production of leaves, and little or no heads; we may, however, have them, with a short intermission, from the beginning of October to the middle of July, and how to accomplish this will be seen below. The times of sowing are given for latitude 41°, south of which it will be somewhat later, and north a trifle earlier, according to distance.

For Fall and Midwinter Use.—About the last week in May, choose a plot of not over-rich soil, dig and break up well, and sow the seeds thinly in drills, one foot apart and half an inch deep. If the earth be very dry, give a good soaking of water previous to opening the drills; let this percolate down for a time, until the ground will again work without clogging, and, after sowing, water over again lightly; this will settle all close, and enable the seeds to vegetate freely and quick. In the course of five or six weeks, the plants will be large enough to transplant in their final places. If the soil is not very fertile previously, dress over a plot as large as may be required with barnyard manure—say two barrow loads to each square perch—or decayed vegetable matter in the same proportions, to which may be added one pound of guano; dig or plough all in, and plant two feet apart,

putting each plant down to the crown, so as to secure a better hold in the soil and prevent the winds from tearing them out when they become large. Many persons practise earthing up the stems, but our own experience speaks to the avoiding this; for, if the summer should happen to be moist and warm, they are very subject to rot from extreme succulence in the stalk. This need not prevent the stirring of the soil, and a thorough loosening with the hoe or spade will always prove very beneficial during active growth. This stock will begin to head about the first week in October, and continue on in succession until the frosts are expected to set in severely, when the remainder of the plants may be carefully lifted and buried up to the collar in soil in a cellar, a grapery, or, where there is no such convenience, they may be put in a trench in the garden, and covered over with leaves and boards so as to keep out the frost. In any of these positions, they will continue to head until February, and may be cut as wanted.

For Early Spring and General Summer Crop.—The seed may be sowed the last week in September, in the same way as above stated. In all latitudes where the frost is severe, these plants will require some winter protection. When they have grown three or four leaves, they may be planted four inches apart, in a box frame, and covered with glass sashes or shutters. The former is much the best; but will need to be covered with straw mats or other such material during extreme cold; the outsides, also, ought to be banked up with earth or litter, to keep out the frost. Give air at all favorable opportunities, remove the covers entirely in mild weather, but shut up and cover when there is frost. Never give water to these young plants during winter, but endeavor to keep dry and cool; this will prevent them from decaying in the "shank," a disease that is very common when there is an excess of moisture. If at any time they become thoroughly frozen, let them thaw in the dark, and afterwards let in air and light in abundance whenever the temperature is above 32°, and never leave the glasses shut when the sun shines on them. Many persons do not succeed in wintering young cauliflower plants, and principally from the neglect of the precautions here laid down. When the fall sowing has not been attended to, a slight hotbed may be made in January as follows: Mark out on the ground, one foot larger on each side than the size of the frame, excavate one foot deep, build up evenly and somewhat solid, to the height of three feet, with hot stable manure in the earlier stage of decomposition, upon this place the frame and glasses immediately, and, when the heat has begun to subside a little, cover over with five inches of friable loam, and in this sow the seeds. Be careful to tilt up the sashes behind whenever the temperature inside rises over 50°. This will allow the steam to escape, and secure a wholesome atmosphere. When the seed-leaves are above ground, admit air more or less as opportunity occurs, but maintain sufficient heat to keep up a healthful progress, and increase the opening as growth expands. The object now is to get short and stocky plants, which never can be obtained without a free admission of air and light. The frost must, however, be guarded against, for in this state they will not bear it, nor yet until they have been gradually hardened off. They should, also, be taken up when the first rough leaf is formed, and pricked out into the same bed, three inches apart, for the purpose of increasing the small fibrous roots and assisting the above desideratum. This last-described process is only a "make-shift," and ought never to be resorted to when winter-kept plants can be got, as these latter are always more hardy, and generally bring the finest heads.

To obtain a first early crop for the kitchen, it is necessary to make up a similar hotbed to the one above specified, about the middle of February, of any size, according to the quantity required or convenience of glasses at hand. In this case, there should be nine inches to one foot of rich mould introduced, plant out

eighteen inches apart, keep close for a few days, afterwards give air freely, shut up at night, and cover to keep out frost; water as occasion requires, and take advantage of any warm showers that may occur.

General Summer Crop.—At the beginning of April, have in readiness a well-dug or ploughed, and enriched, openly situated piece of land; plant out two feet apart, and, if the weather be at all dry, give a quart of water to each plant. This will settle the soil around the roots, and should be always practised, excepting during rain. When the plants begin to grow freely, a spading or deep hoeing between the rows is of great service, and more than repays the extra labor. When the heads are half grown, the leaves may be broken across the midrib, and the tops curved over, which will obstruct the light, and cause the flower to be pure white and better flavored.

How to Cook a Cauliflower.—The good or bad cooking of this vegetable makes so decided a difference that it may be unwholesome and tasteless, or nutritive and delicious; and perhaps a few words on this part of the subject, derived from my wife's experience, may be of use to some of your readers. Immerse the heads in hot water, in which has been dissolved a tablespoonful of common salt; simmer very slowly one hour; do not let the water boil, or the flowers are subject to break; take out into a colander, cover close to keep hot whilst the water drains thoroughly; have ready a little toast to place them on, and pour over some nice thick melted butter.

The insects which infest this plant are a small *black beetle*, about the size of a pin's head, that jumps like a flea. It is so destructive in some localities as to eat up the entire stock of seedling plants in a short time, and is always in most abundance in dry and hot weather. A sprinkling of wood ashes, lime, or soot, used while the dew is on in the morning, will keep it off, but the remedy ought to be early applied, and repeated if washed off by rain. A species of *aphis*, a glaucous colored little fly, sometimes attacks the roots, and ascends, also, to the leaves; they are gregarious, and exist by sucking the juices, and exhausting the plant. In this case, I have always found caustic lime, in powder, dug into the ground, and around the plants, and also sprinkled over the leaves, to be effectual. The same remedy is also of service against the cut-worm, or other caterpillars, which are sometimes troublesome.

So far, I have only treated on the *Cauliflower*, without any reference to its near ally *Broccoli;* and, as you will no doubt think this communication sufficiently long, we must defer it until some future opportunity.

REMARKS ON SOME OF THE NEW CHINESE PLANTS.

BY J. B. GARBER, COLUMBIA, PA.

THERE is now much interest manifested in regard to some of the recently introduced vegetables and plants from China and Japan. As I have had several of them in cultivation two and three years, it may, perhaps, not be amiss to give my views and experience as to the adaptability of some of them to our climate.

The *Dioscorea batatas* I have had for two years, and have ventured to test my small stock as an esculent. Possibly, some of your readers would be encouraged to try it, who have kept aloof for fear of "multicaulis," did they know its real merits. Farmers and horticulturists have been so often "humbugged" that they fear to venture on a new thing, and more particularly as regards this root, from its high price, and also on account of several writers in different papers trying their best to frighten the timid.

A correspondent of the *Dollar Paper* last summer cried "humbug" even before he saw the plant grow, because his tubers *rotted on the way*, and he had to pay express charges for *rotten tubers*—so, of course, it is a "humbug."

A lady, in the *Homestead*, gives the following receipt for making it: "Take," she says, "a small Irish potato, wet and weedy; add to it a turnip tolerably stringy, and not too rank; splice them together lengthwise, with a morning-glory vine on top; cultivate strenuously for two years, puffing it in agricultural papers; then dig up one root (large crop!) six inches long and three round! (immense size!); boil, and eat—if you can."

In the *Farm Journal* for November—again copied from *Homestead*—a wag (probably the Editor!) says: "Some twenty years since, France—that land of beautiful things and Mississippi bubbles—brought out the Rohan Potato, and, from a coarse, rank, yellow-fleshed vegetable, made a dish the gods might have envied. After a long gestation, and with exemplary patience, prophetic of the coming prodigy, this mother of rare things is again parturient, and the world looks on with admiration and astonishment while the offspring is baptized Dioscorea batatas; a bubble more injuriously framed and carefully nurtured than the Rohan, but just as truly filled with wind." He continues on in this strain, but it is useless to copy. Then, the Rev. M. S. Culberson, who was ten years in China, says: "It is never eaten, except by some of the very poorer classes, &c., as an accompaniment to rats and young puppies, &c. &c."

Now, Mr. Editor, can you tell me what is the meaning of all this twaddle? Have these persons cultivated and eaten of it from their own raising? or, is it because *they* haven't got a stock of it *for sale?* I am strongly of the opinion that, had these very writers—these wiseacres!—the article on sale, *they* would laud it to the skies as a *dish the gods might envy!* But, as I intended to give my own opinion of its merits, "without fear or favor," I will briefly say that I procured a single root, or sprout, in May, 1855, and, for fear of accident, kept it in a small pot the first year, where it made no progress. Last spring, it was barely a slender root, less than the size of a finger. I planted it out, in May last, here, and, although the season was very dry till the last of August, it commenced growing vigorously; run up a pole some six feet, and then spread out, producing some four or five dozen of small tubers at the axillas of the leaves. The root I took up in the fall; it was over twenty inches in length, and some three inches in diameter at the lower end. In digging it up, I broke off about three inches of the thickest part; this I had cooked. In flavor, it is not like an Irish or sweet potato, but, in my estimation, superior to either; pure white, no stringiness or toughness about it—more like pure starch than anything I can compare it to. I should suppose, so long as "the very lowest classes" in China have an abundance of this root, starvation *will not* "stare them in the face," though they may use this root as an accompaniment to the other "fixings," according to the Rev. gent. above quoted. I should prefer the Dioscorea *without* the other addenda, but you know, Mr. Editor, "there is no accounting for tastes." It appears perfectly at home in our climate, if planted in the spring, and, judging from its habits of growing straight down, may be planted very close, and, in this way, will, I think, yield full as large a crop as the Irish potato, and, should it withstand our winter's cold, in the open air, as it is said to do in France, and continue increasing in size for two or three years, its yield must be enormous. All the small tubers I shall plant next season, with every prospect of great success.

Holcus saccharatum, Sorghum saccharatus, or Chinese Sugar-Cane.—This is another plant of late introduction from China, and which is now sought after in all sections of the Union, wherever its name and fame have been sounded. This

plant will grow from Maine to Florida, and produce an abundance of syrup superior to the best from sugar refineries, and can of course be turned into dry sugar as easily as the syrup from the true sugar-cane.

Mr. Peters, of Atlanta, Ga., has been experimenting with it, and says "that, on ordinary soil, it will produce from 346 to 468 gallons of syrup to the acre, and that every farmer can make his own syrup at a cost not exceeding fifteen cents per gallon." It is believed by some, that it will supersede the true sugar-cane even in Louisiana. In the Middle and Eastern States, it will probably not produce so much saccharine matter as in the South; yet it will be well worth cultivating, if only for the syrup, should it yield only 300 gallons per acre. What other crop can be cultivated that "will pay" as well? As a forage plant, cultivated broad-cast, cut while young, and tender for soiling, or dried for winter fodder, it is believed that it will be far superior to Indian corn, or any other forage plant yet known.

Japan Pea.—We are also indebted to the Celestial Empire for this plant, now pretty extensively disseminated, and I have often been asked the question: What it is good for? If you will soak them over night in warm water, and, next day, give them a good cooking, serve them up as Lima beans, and do not say they are superior to beans, then I can only say, "tastes differ." The Pea is raised with less trouble, and produces more abundantly in all soils and all seasons than Lima beans. Last spring, we received two new varieties of the Japan Pea *via* California, nothing different, however, except in color, one being green, and the other red.

These new productions are well worth attending to, and neither of those enumerated will be classed with Rohan Potato or multicaule "humbugs," in a few years hence.

It seems as if nature were always provident. Although I am not yet "the oldest inhabitant," I can nevertheless well remember the time when water, horse, hand, and all other "powers," were becoming inadequate to the demand; then, at the very "nick of time," steam became the "motor;" wood was rapidly decreasing in quantity, and increasing in price—lo! and behold! *black rocks* were found an admirable substitute! Hickory and birch brooms could no more be had to do the "sweeping;" then broomcorn makes its appearance just when people began to fear that "sweeping" was soon to be "one of the institutions" that had become extinct. Hemp, flax, and wool, were at one time so inadequate to the demand, that serious thoughts began to arise in the minds of many, how, if population should continue to increase, the people could find materials to "hide their nakedness." Again comes the substitute, just when most needed, in the name of cotton. Thus, as any one particular article becomes scarce or exhausted, Providence provides a substitute.

WINE MAKING.

A FRIEND of the *Horticulturist* remarks, that we have repeatedly given in our pages the view, that the domestic manufacture of wine is favorable to temperance, and requests us to insert the other side of the question, taken from a late paper. We do so without expressing our own judgment in the matter.

CRIME AND INTEMPERANCE IN WINE-PRODUCING COUNTRIES.

BY EDWARD C. DELAVAN.

The increase of crime in France is, proportionally, *six times* greater than the increase of population, as appears from well-authenticated returns.

From the year 1826 to 1843, the increase of population was only at the rate of seven per cent., while the increase of the various crimes was forty-five (45) per cent.

This record, fearfully large as it is, contains only those crimes which have been *proved* upon individuals; and if these be added to those which have *never* come to light, or which have not been *successfully investigated*, the percentage must be swelled to an almost incredible degree.

The statistics of France, in suicides, show an alarming increase in this kind of amusement so peculiar to that country.

From 1820 to 1830 (ten years) the number of suicides were 1,765; from 1841 to 1843 (three years), 2,573; in 1844 (*one year*), 2,900!

It has been frequently asserted, and, we believe, truly, that "*the use of wine is as common in France as the use of tea and coffee is here.*"

A distinguished banker and philanthropist of Paris (Mr. Lutteroth) furnished to the writer of this, while in that city, the government returns of the quantity of wine and distilled spirit drank within the walls, in a single year. Within the barriers there is an excise; without, none.

The returns give a consumption of about one hundred and thirty bottles of wine (nearly a quart each), and six of ardent spirits, to every inhabitant of the city. Outside the walls, wine is drunk without excise, and *there* can be seen drunkenness in all its horrors; and it was to these localities that Louis Philippe directed my attention, as furnishing a fearful illustration of the drunkenness of France.

If the inhabitants of Paris drink wine "*as we in this country drink tea and coffee,*" as has been affirmed, and doubtless truly, the statistics of Mr. Lutteroth the banker will not appear exaggerated, nor will it seem at all singular, that the great physician, Broussais, found most of the stomachs of adults, which he dissected after death, "*in a state of disease.*"

Louis Philippe, while the writer was in Paris, expressed to him his conviction that total abstinence was the only true temperance, and that the *drunkenness of France was on wine.* His son repeated the same fact, and added that it would be a blessing to France could all the grape-vines be destroyed, except so far as their products may be used for food.

The fearful increase of crime in France may reasonably be traced to the increased consumption of strong drink—*if not adulterated, an exception to a general rule.*

Dr. Baird, who travelled extensively in France, and was a close observer, states that "pure wine could only be found at the vineyards;" and that "adulteration was all but universal!"

How far the increase of crime is owing to the increased virulence given to the intoxicating liquors through the agency of other poisons, than the original poison, alcohol (always found in intoxicating wine), is a question which every one, after ascertaining the facts in the case, can settle for himself.

Inasmuch as pure wine can only be had at a certain high price—and as imitations as to sight, smell, and taste, are now so perfect, that few can distinguish the *pure* from the *impure*—and as the impure costs only from one-eighth to one-quarter the value of pure, all can judge how barren the chance is of any one getting a drop of pure wine.

R. M. Hartly, Esq., of New York, several years since, at much cost of time and labor, compiled from authentic documents the quantities of strong drink annually consumed by various nations, showing the following result: France, 1,053,797,854 gallons of all kinds, average to each person forty-two and a half gallons a year; equal to four and a half gallons of *naked alcohol to each!* The consumption of naked alcohol to each person in Sweden was found to be three and a quarter gallons; in Prussia, one and a sixteenth; in the United States, one and an eighth.

We have long believed France to be one of the most intemperate countries on the face of the earth, *and the statistics prove it.*

A great injury is done to the cause of temperance (unintentionally, doubtless) in this country, by American travellers who pass rapidly through the wine countries, visit the capitals of the various nations, frequent the splendid squares and streets, and then return home and report "no drunkenness in wine countries." They do not look for it—do not go where it is to be seen. The writer, while on a foreign tour some years ago, *did* look for it, and found it too, with all its attendant horrors; and he found its effects also, stamped with its dark blight everywhere as here: Crime, poverty, and disease, its sure companions. The Duke of Orleans, General-in-Chief of the Armies of France, told him the ration to each soldier was a bottle of wine a day—the use of that bottle only stimulated the appetite for more, and their small pay was usually squandered to purchase it; and that want of subor-

dination in the army could be traced to the wine; and most of the crime and poverty in the country, especially in the wine districts, *to the same cause.*

J. Fennimore Cooper says: "I came to Europe under the impression that there was more drunkenness among us than in any other country, England, perhaps, excepted. A residence of six months in Paris changed my views entirely. I have taken unbelievers with me into the streets, and have never failed to convince them of their mistake in the course of an hour. . . . . On one occasion a party of four went out with this object; we passed *thirteen drunken* men within a walk of an hour—many of them were so far gone as to be totally unable to walk. I once saw three men wallowing in the gutter before my window, a degree of beastly degradation I never witnessed in any other country. . . . . In passing between Paris and London, I have been more struck by drunkenness *in the streets of the former than in those of the latter.*"

Says Horatio Greenough, that eminent American sculptor, in a letter from Florence, Italy, so long ago as 1839, to the writer of this article: "Many of the more thinking and prudent Italians abstain from the use of wine; several of the *most eminent* of the medical men are notoriously opposed to its *use*, and declare it a *poison*. When I assure you that one-fifth, and sometimes one-fourth, of the earnings of the laborers are expended in wine, you may form some idea as to its probable influence on their thrift and health. . . . . How far the distinctive and poisonous influence of wine, as here used, is to be ascribed to the grape, and how far it is augmented and aggravated by poisonous adulterations, it would be difficult to say; for although the pure juice of the grape can be furnished *at about one cent a bottle*, you, who have studied the matter, know very well, the retailers choose to gain a fraction of profit by the addition of water and drugs, that will maintain the color, body, bouquet, and intoxicating properties *it originally possessed.*"

Lord Acton (since Cardinal) while Supreme Judge of Rome, assured me, while I was in that city, that "all or nearly all the crime in Rome originated in the use of wine." He directed me to that part of Rome, which would well compare with the Five Points in New York. I visited that district, and there I saw men, women, and children, sitting in rows, swilling away at wine (*making up in quantity what was wanting in strength*), and such was the character of the inmates of those dens of debauchery, that my guide urged my immediate departure as I valued life. "And to-morrow," said Lord Acton to me, "I shall be obliged to condemn to death a man who went direct from one of these dens to his home, where, under the influence of wine, he butchered his mother and his wife. And this man, when not under this malign influence, was a kind-hearted son, husband, and father."

The evils of intemperance are now universally acknowledged to be so vast and overshadowing, that even our former opposers are seeking out a remedy—and that remedy, in the manufacture and importation of *pure* intoxicating drinks. It is now too late to waste a moment on this idea as a remedy. It is out of the question to decide which is or which is not *pure*—all the chemists in the world could not give a correct analysis in one year of the contents of a single wholesale liquor establishment that could be named. The only reason why even pure intoxicating liquor is drunk, is for the poison in it—*the poison, alcohol*—we do not want this poison, as a beverage, in any shape.

Ohio is striving for the bad eminence of becoming a wine-producing State. If she succeeds, it will be a curse to that State, and through her to the nation.

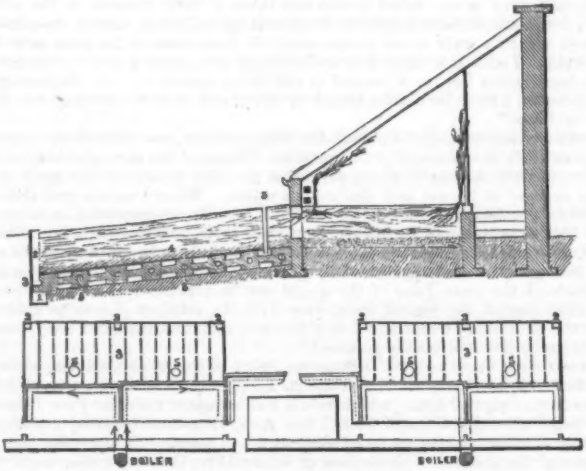
The only safety for us is in prohibition of the traffic of all kinds of intoxicating liquors, as a beverage, in all the States, and the non-importation of the same from abroad.

VINE BORDERS HEATED ARTIFICIALLY.

THE effect of artificially warming a vine border, has been seen in many instances; not the least instructive of which occurred to a Mr. Purday, an eminent and scientific British gunsmith. In his garden, at Bayswater, a vinery was filled with wood, and produced an abundance of excellent grapes, in little less than two years, by merely warming the border. The first year, the vines made wood thirty-seven feet long, strong, short-jointed, and well-ripened. But the plan was next carried out by A. L. Gower, Esq., in Wales, and is described in the journal of the Horticultural Society by his gardener, Mr. Hutchinson. "The bottom of the border," he says, "is gently sloped from the houses to the extreme edge, where is built a box drain extending the whole length of the border, as shown in the accompanying section,

marked 1; this drain is one foot square, the top of it being level with the bottom of the border, as also shown.

"*Ground Plan of Houses, showing Cross-Walls beneath the Vine Borders.—Section.*—When this was completed, dwarf walls, marked 3, were built across the



border, three and a half feet apart, one foot square, in the pigeon-hole manner: on the top of these walls are laid rough flags; these, in reality, form the bottom of the border, and upon these is placed about six inches of broken stones and bricks, marked 4; then covered with turf, with the grassy side down, to prevent the soil from mixing with the stones. There are flues or chimneys at each end of the border and centre communicating with the drains in the bottom, as shown in the section, marked 2. The top of these flues is nicely made of stone ten inches square, through which is cut a hole of six inches square, into which is inserted a plug of a wedge-like form, so as to fit tightly, but removable at pleasure; these flues are about an inch above ground. At the back of the border are placed cast-iron pipes (marked 5) perpendicularly, and also communicating with the drains underneath; these being higher than the flues in front, cause a motion in the air beneath the border. After a long continuance of rain, the plugs in the flues in front are taken out, thereby creating a great circulation of air, and thus, to a vast extent, accelerating the proper drying of the borders, which is deemed of much importance. In the winter season, the borders are covered with leaves and stable manure, to the depth of twelve inches. It is obvious that the whole aim of the constructor of this border was to do that which experience shows to be so very important. He not only got rid of superfluous water, but he introduced air in abundance, and, at the same time, the natural warmth which it carries with it. The result was, Black Hamburgh Grapes, weighing from two pounds nine ounces to five pounds a bunch—beautiful fruit, of admirable quality, on vines just seven years old.

The experiments with *concreting vine border* were all made with the same end in view—the elevation of the temperature of the soil in which vine roots are formed; this is found to be of great importance.

CLEMATIS PATENS VAR. AMALIA* AND LOUISA.

Two varieties of the Clematis patens of Decaisne (C. cærulea, Lindley ?), introduced, with others, from Japan by Dr. Von Siebold. Like other varieties of the same species, they are hardy, and are cultivated in the same manner. They will grow in almost any well-drained soil. The Clematis loves the full sun, but does not bear high winds. They grow best trained around columns, or when employed to cover an old tree. They do not readily produce seed, but are multiplied by cuttings or by layers. Other handsome varieties of this species, figured in European magazines, are C. patens Sophia, purple, with a shining green band down the middle of each segment of the flower, and C. p. monstrosa, in which a number of the stamens are transformed into petals, making a semidouble flower.

In an article on climbing plants, the *Cottage Gardener* (London) remarks: "After these come several new, or rather newish, *Clematises*, which, like *Cærulea*, are sufficiently hardy to stand our climate, but are seen to much better advantage in an orchard-house temperature, and protected by a glass veranda, or some very cool greenhouse. Of these, *Clematis lanuginosa* is, as far as we yet know, the best.

"My own opinion is, that *Clematis Sieboldi*, *C. patens* (which is the proper name of *Cærulea*), and the *grandiflora* variety of it, together with *C. lanuginosa*, *C. lanuginosa pallida*, *Sophia*, a continental seedling from *patens*, alias *Cærulea grandiflora*, *C. coriacea*, a showy kind from New Holland, and *C. barbellata* from the Himalayas, and some others of recent introduction, should all be grown on their own roots for pot culture; but when used for trellis-climbers out of pots, I am certain they would answer better if they were grafted on six-inch pieces of the roots of *Clematis montana*. Also, I think that, no matter how they "went off" in rapid growth, they ought to be cut back to near the grafted parts the first two seasons, if not the third, so as to get a thoroughly strong bottom, that would hold on for years and years, and still increase in beauty and strength.

"Another fine-looking *Clematis—indivis lobrata*—was new to me; but, in an orchard-house, all these hardy house-climbers will assume their native character."

REPLY TO DR. WARD ON DWARF PEARS.

BY J. W. FIELD, NEW YORK.

Some remarks which I ventured to make at the Pomological Convention at Rochester, and which received confirmation from Col. Wilder, L. E. Berckmans, and others, *not nurserymen*, have been uniformly misrepresented and misworded in the several reports.

They were substantially these: That being a lover of truth, and desirous of learning the truth, in order to obey the truth, Dr. Ward's articles on dwarf pears had incited in me the keenest curiosity to know if I had been pursuing a phantom. I had therefore visited his place, and procured the visits of other gentlemen, *not nurserymen* (which unfortunate class seem to have excited the doctor's suspicion of their exact truthfulness), if happily we might discover the cause of such a sad account of the failure of the pear on quince stock. The queries to be answered were: Was it local disadvantages? accidental causes? originally bad trees? poor cultivation? ignorance of the nature of the hybrid plant? a poor selection of the

* See Frontispiece.

kinds suited to the quince? were the pears budded on American quince stocks? Or, was the quince stock, as a base for pear cultivation, a failure? The united testimony of these unbiassed gentlemen, who had the pleasure of the doctor's courteous reception and attendance through his grounds, was against his theory and conclusions, and, as two of them have informed me, they found abundant testimony in favor of the quince stock in his own grounds, and that the doctor's treatment of his trees had violated all the laws governing the growth of pear on quince roots.

First. The trees were originally planted with the quince stock from two to four inches above the ground. *Second.* The conical, low-branched form had been neglected, and ordinary standard trees had been attempted, which would account for the doctor's complaint that they blew down, breaking off at the juncture of the pear and quince.

That, moreover, these gentlemen had ventured the observation (in reply to the doctor's objection to the quince stock) that his best Vicars were on the quince. "Oh," said the doctor, "that is an exception." "But your Duchesse are splendid on quince." "Another exception," replies the doctor. "But your Louise Bonne, your—etc." "Exceptions—all exceptions," was the reply; and so on through the list of nearly all the pears which experienced pomologists claim as superior on the quince. From this I deduced these two facts: that the doctor failed, where he had failed, from ignorance of the imperative laws governing the growth of pear on quince; and that his success, where he had success, was on the much abused quince stock.

These, Mr. Editor, are the sum and substance of my remarks, in which none of the discourteous terms reported were used.

Now, Mr. Editor, I looked upon Dr. Ward's published essays as just and fair subjects for criticism. If they are true, and experience will establish their soundness, I shall be the doctor's most earnest disciple, as I am seeking for truth, and desire nothing else. Now, will you indulge me in a very brief synopsis of the causes of success and failure of experiments of pear on quince stocks? I have three acres of light, sandy loam, upon which I have carted two feet, in depth, of soil from the adjacent streets of Brooklyn. The thirty inches of soil have been trenched and mixed with a fair dressing of compost, on one-half of the ground, the other half only fairly worked with the plough, and the same manuring for comparative experiments of growth and fruiting. On the first one and a half acres, I have (two, three, and four years planted) two thousand pear-trees, five feet each way for the two and three years planted trees, and (10 feet by 5) ten feet by five for the four years planted. I commenced planting the quince stock seven years since, but, from inexperience, met the same difficulties narrated by the doctor, discovered the cause, and rejected the whole stock of eight hundred and seventy trees, and commenced *de novo*. I was not a nurseryman, and rather think the fraternity would not own me now for one, though I have sold a few trees, to help pay the expenses of my hobby until it will pay for itself. And now, sir, with an abundant and most satisfactory success before me, with a growth, healthiness, and productiveness which surpasses my expectations, I feel able safely to pronounce on the necessities for success, and the causes of my failure.

First. My first trees were budded on American quince stocks, and, if the doctor obtained his trees prior to 1850, they were, almost beyond doubt, defective in that important respect.

Second. The pear was budded high on the quince, and, in great submission to the dogma, "Plant your trees no deeper than they grew in the nursery," they were set with the quince two to six inches above ground.

Third. Many kinds unfitted to succeed on the quince, and which experience has rejected, formed the great bulk of the number.

In regard to the first cause of failure, the doctor does not seem to recognize the necessity of caution, and, perhaps, was quite as unconscious of the defect as of the second.

The pear must be budded on a free, rapid-growing variety of quince stock. Such is the Angers Quince, which will expand in growth with the pear, instead of ceasing to grow beyond three or four inches in diameter. Shoots of this variety seven feet in height, and one and a quarter inches in diameter; the growth of two seasons can be seen in my grounds.

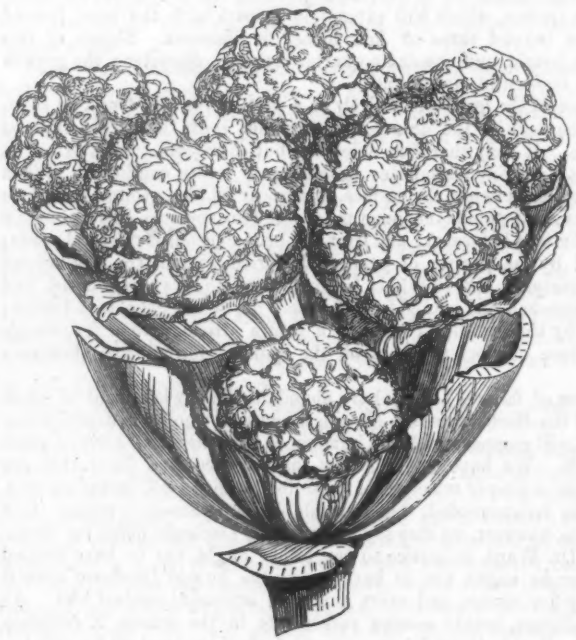
Second. The office of the quince is entirely as a root, never as a trunk or stem. Every portion of the bark of the quince will send out roots, with the slightest shade and moisture. It may therefore safely be buried several inches below its natural position, as it readily assimilates its character to its condition. When buried two to three inches below the surface, new roots fill the ground; the tree is steadied at the weakest point (the juncture of the two species), and ultimately after the habit of the tree is formed; and fruit has been enjoyed for several years; the rootlets formed by the portion of pear stock buried, sustain the tree beyond the possibility of fracture. Of (600) six hundred trees, three years planted, and this year removed, one-half had rooted from the small portion of pear stock buried; and (if permitted by the Editor) I may, in a future article, give a few simple instructions, to induce or prevent pears on the quince rooting from their own stock.

Of the third cause of failure, I shall have abundant acknowledgment of truth from the readers of the *Horticulturist*. No single cause of wholesale denunciation of the quince stock will compare with the injudicious working of all sorts of pears on the quince stock. We have but very few that succeed, and fewer that are superior upon it, and a proper selection of these for localities will insure success. These have been so recommended, that it would be superfluous to repeat them here. Among them, however, we may say, the peerless Duchesse holds her undisputed rank; and Dr. Ward, in justice to her, either ought not to have decried the quince stock, or he ought not to have grown the largest Duchesse upon it ever known; thirty-five ounces, and every ounce an argument against him. As to the doctor's challenge, beside coming rather late in the season, it certainly struck me as well as all with whom I have conversed who have read all his articles, that there was a gross inconsistency in writing down the pear on quince, and then challenging fruiterers to produce equally fine pears with his, grown on the abused quince.

The universal verdict seems to be, regarding the articles in the *Horticulturist*, that the doctor should have examined other grounds than his own, if, possibly, his cultivation, kinds, or trees, were not properly suited to the wants of the *double* plant, before he ventured to pronounce so imperatively against the experience of French cultivators for one hundred years, and English and American pomologists for twenty and thirty years. That his articles very blindly expressed his belief, containing within themselves self-refuting contradictions, and were altogether quite obscure, at times, whether he did not intend ultimately to pronounce in favor, instead of against the quince stock. That the doctor should either stop growing good pears (of all the kinds claimed for it) on the quince stock, or he should stop writing against it—all of which, I hope, he will take in good part, as I have a hearty respect, and some affection, for any man who loves a tree as well as I understand the doctor does.

MONSTROUS BROCCOLI.

Mr. Chorlton has given in the present number a lucid account of the mode of cultivating the Cauliflower; while we were engaged in reading his article, the following came to our table in an English periodical:—



"I beg to send you a head of Broccoli, which may possibly be worth attention. I have been an extensive grower of that vegetable for more than 20 years, and I have never seen anything like it before. To what cause is its anomalous condition to be attributed?"—J. Clark. [Your Broccoli is very curious, from the fact of six perfect heads being grown on one and the same plant. The cause of this rather unusual formation is probably owing to some injury which the growing point of the main stem may have received at a late period of the season; the effect of such an accident would be the production of several heads resembling the specimen you have been so good as to forward to us, and of which the accompanying sketch, although very much reduced, will convey a better idea than any lengthened description.—B.]

FRUIT CULTURE.

BY W. B. WALDO, JOHNSVILLE, DUTCHESS COUNTY, N. Y.

Dear Sir: One year ago, a friend of mine presented me with one hundred dwarf pear-trees from the Rochester Nurseries, and, although their roots were unfeelingly lacerated by careless hands, they brought forth some fruit the first year. The donation innoculated me with the dwarf tree fever; each tree became an acquaintance and a particular object of my care. This year, they have been mostly barren, although they have made a fine growth of wood. As horticultural science has become a little deity that perches, in these modern days, on every bush

in everybody's garden, I coaxed up an acquaintance with his little excellency, and introduced him to each tree, and, after reading Mons. Cappe's mode of pruning and pinching, I went at it in season, and nipped, with great care, every little protruding twig except the leader. And now my astonishment has been very pleasantly awakened, by discovering very many of the twigs so pinched as aforesaid, crowned with a beautiful fruit bud, an event which I had no faith in, and the Lilliputians make bragging promises of giant burdens the ensuing year.

I wrote to Col. Wilder, of Boston, for advice in planting, and that gentleman, though a stranger, kindly gave me his advice, for which I shall be ever grateful, for a friend of mine, who has some three thousand trees, planted his own way, has lost numbers of them this year by the borer. I advise him to take them all up and replant, or I believe he will lose the whole.

1*st Question.* I have a quantity of young plum-trees large enough to bear thriftily in very heavy soil. Can I *graft* peaches successfully on them? I have grafted nectarines on plum with uniform success. Will the peach do as well?

2*d.* Salt, *science* says, is a good fertilizer for quince. Would you, therefore, recommend salt for dwarf pear-trees on quince roots?

3*d.* I have seen somewhere a remedy for rose-bugs in which I had faith, but have forgotten it, and cannot find it. Do you know what will keep them away? They were very destructive, last year, upon grapes.

4*th.* The apple-tree borer kills our trees, and bores our patience. I have about lost an orchard of sixteen years' standing. Is there any remedy? or must we bear the loss?

It is wonderful to me, when I reflect upon it, notwithstanding the much noise, of late, about horticulture, that there is so little attention paid to it. A garden is a little world of pleasures and delights, yet locked against thousands standing outside who know nothing of the pleasures inviting them within. As time flies on, earlier acquaintances scatter, old friendships are broken, the promises and hopes of youthful days drop and fade as years pile up their burdens and infirmities upon the waning strength of age, and, before we are aware, we stand in the midst of a bustling, fluttering world, solitary and alone. If we go upon the highway, it is filled with strangers; if we stay at home, our visitors belong mostly to another generation; if we visit the usual place of public worship, the whole countenance of the congregation scarcely resembles what we remember it to have been in time gone by. Now, if we have a garden of our own planting, we recognize an acquaintance in every tree, and vine, and shrub, and, with a little effort of the imagination, every plant becomes personified, and thus the plantation is an interesting family, smiling at our approach, and gratefully contributing their luscious fruits as if to reward us for our care. Every one, who can, should plant a garden, cultivate a taste for it, read the *Horticulturist*, and learn, amid trees, shrubbery, and flowers, to be a happier man.

[1. Peaches do better on plum stocks than on their own roots; they are more productive, and live longer.

2. Salt, in small quantities, is advantageous to the quince, or the pear on quince stocks, when they are growing in a light soil. When the soil is wet or heavy, salt is injurious.

3. Quite a variety of insects go under the name of rose-bugs, in different parts of the country. In the open air, we know of nothing better to destroy them than occasional syringings with water in which tobacco has been well soaked.

4. Gas tar will prevent the borer from entering the trees. Tar around the tree from the surface of the ground to an inch or so below; when applied much above the surface, it is said to be injurious. When the insect has already taken posses-

sion, wire may be run into their holes, to dislodge them, and many may be destroyed by digging away the soil from the collar of the tree in the fall, so that the frost may be better able to enter the holes. Some have had good success with the last plan.]

FROST GAGE PLUM.

BY WM. TOMPKINS, GERMANTOWN, NEW YORK.

This Plum was introduced here about ten years ago. It came highly recommended by the very best authority, and was planted quite extensively by the most of our orchardists, and high expectations were entertained of it. Its knotting propensity, however, soon became apparent; the knife was, during the growing season, brought in almost daily requisition, but, in spite of all the vigilance we were able to use, it was found impossible to keep it in a respectable condition. After several years' vainly combating the disease, the trees were mostly rooted out, and, with a few exceptions, their cultivation abandoned. We do not wish to censure those who first introduced this fruit, for it is well known to have once been, in certain parts of the State of New York, very productive and profitable, paying better than any plum then in cultivation.

But the question is often asked: Are there any orchards in a thriving and profitable condition in its original locality, or elsewhere? From what we have seen and heard, we very much doubt if there are. Cannot some one of your correspondents who has experience with it give us some information on this subject? I would willingly make a journey of a couple of hundred miles, to see a good-sized orchard of bearing trees in a healthy condition. If such an orchard cannot be found in some of the numerous localities in which it has been sent, then, in my humble opinion, this fruit ought not to be tolerated in any respectable nurseryman's catalogue or grounds.

True, there may be seen in the market immense quantities of plums that are sold for the Frost Gage, but, on a close examination, seven-eighths of them will be found to resemble it, but are inferior in *quality*.

It is with much pleasure I learn that the American Pomological Society has removed the Frost Gage Plum from the list for "general cultivation;" but I should have been more pleased had they put it on the "rejected list;" had it been put there some six years ago, a vast deal of time and money would have been saved by the fruit growers of this locality. It is a fact that cannot longer be concealed, that the Frost Gage, which hitherto stood unrivalled as a market plum on account of its productiveness and ready sale at a high price, has become so much subject to the "knots" as to make it a nuisance to every good gardener or orchardist. The inexperienced planter, in looking over catalogues of fruit-trees, is too often induced to select those varieties that are noted for their high price in the market, without being aware of the many drawbacks incident to their culture. Thus the Frost Gage is highly extolled, in some catalogues, as an "exceedingly productive and valuable market variety," and thousands of trees have been ordered and planted by "beginners" from which not a dollar ever has or will be realized; instead of being laden every fall with a crop of "delicious plums," the poor planter, to his no small mortification, finds nothing but "knots," and is thereby discouraged, and frequently makes no further efforts at raising the plum. Whereas, had he been "posted up" as to the plain and simple *truth*, he would not have ordered a single tree of the above-named plum, but some others that are known to be reliable and fruit growing; instead of being checked and injured on the start, would receive an impetus that would not only encourage "beginners," but induce others to engage in it also.

New Books. Horticultural REVIEW.

Report of the Commissioners of the Patent Office for 1855, *issued* 1856. *Agriculture.*

This report contains much speculation and matter for future examination. Of course it must partake of the "desultory," as remarked in the preface, but it is suggestive and valuable.

The Sorghum saccharatum and Dioscorea batatas receive high praise—perhaps not less than they deserve, though, with regard to the latter, sufficient time has not elapsed to test its value, and many who have unhesitatingly condemned it, have unfortunately purchased the wrong description of plant. Of the Sorghum there are strong hopes, and, just now, these hopes are the more cherished on account of the high prices of sugar and molasses. If any nation can work out these problems, it will be the Americans, one of whose honest mercantile captains assures us that, during his frequent trips to Canton, the Dioscorea was one of the first things laid in on arrival. "Why, then, did you not bring it home?" "Because I never thought to do so!" He, and others, probably never thought of its adaptability to our climate.

The accounts of this plant differ because trials have been made with the small axillary buds as sets, as well as another plant of similar appearance. The sets from the axils of the leaves are necessarily slow. They are very apt to fail. *Roots* of this yam, which had been made the subject of four different experiments at the Horticultural Society's Garden, London, were lately furnished for exhibition; three had been planted out, six inches apart, in March. No. 1. Planted the small axil tubers, about the size of marrow peas, six inches apart; of thirty roots taken up, the weight was 3 lbs. 3 ozs. No. 2. Planted small roots, from three to four inches long but very slender, six inches apart; of forty-eight roots taken up, the weight was 10 lbs. 12 ozs. No. 3. Larger sized roots, about five or six inches long, and stouter than No. 2, were planted six inches apart; of eleven roots taken up, the weight was 5 lbs. 12 ozs. No. 4. Cut roots, of different thicknesses, were planted three inches apart; of eighty roots taken up, the weight was 14 lbs. 4 ozs.;

these produced very nice roots, and more equal in size than any of the others. The three latter cases only were satisfactory, and the axillary buds not encouraging. Those who have cried humbug, and who consider this mode of condemnation very good fun, should "wait a little." The roots do not swell to an enormous size; on the contrary, they are long and slender, and hence can be planted near together, thus occupying but little ground. If not exactly a substitute for the potato, it is pronounced, both in England and France, by those who should know, a valuable acquisition, if only for feeding cattle and pigs. We are not prepared to recommend or to condemn it, but have thought it right, from the first, to give such knowledge as is passing respecting it.

The Chufa, or earth Almond, has naturalized itself to our climate, and has a value. A tree of the "Titmouse" (not Tittlebat's!), or "thin-shelled" Madeira-nut, variety *Juglans regia tenera*—the best of all the Walnuts—has proved valuable, and annually bears a fine crop in the garden of Peter Force, at Washington; loamy soil, rather dry than moist, suits this tree; in wet-bottomed land it will not thrive. The Almond (*Amygdalis communis*) is recommended for the Southern and Middle States. We have succeeded with it, near Philadelphia, in a moderate degree.

The advantages of this tree may be briefly summed up in the following words: It prospers upon indifferent soil; requires but little care in its cultivation; is beautiful as an ornamental tree; useful as a shade tree; and profitable in its production of a much desired fruit, yielding, in its bearing years, about twenty pounds to the tree, which, at fifteen cents a pound, would amount to at least $500 to an acre. The amount of almonds annually imported into the United States is believed to be valued at more than $250,000.

The *Soil of the South* says of the Chufas: "This is one of the novelties lately introduced that will prove a blessing to the country. Its expressed juice makes a delightful cooling drink, much used in the warm climates of Europe. In some countries, it is ground and distilled, and is said to make a valuable brandy. They are highly relished by children; but their chief utility in this country will be in the nutriment they afford to the hog, being imperishable in the ground, affording him an opportunity of just working enough for his living to keep him in good order. Their immense productiveness is another great recommendation. We have counted this season the product of one seed, which is twelve hundred and fifty perfect nuts, or something more than a quart. The top resembles the rush, and is said to be good forage for stock."

The Cork Oak (*Quercus suber*) is adapted to the climate and soil of many parts of the Middle and Southern States, and hopes are entertained that the importations of the seed will be attended with good results.

The "Prune d'Agen" and "Prune Saint Catharine," have been introduced from France, and grafted on the common plum-tree in all the States north of Maryland, with success. A quantity of the cuttings of "Raisin" and "Currant" Grape-vines have withstood the severity of our climate, as far as heard from. Liquorice is also being successfully cultivated.

The Opium Poppy (*Papaver somniferum*) is recommended to be experimented with; the annual importation of opium exceeds $400,000. The Vanilla plant, Ginger, Iceland Moss, Orris-Root, medicinal Rhubarb, Castor Oil plant, the Assafœtida plant, Cardamom, Water-Nut, or *Trapa*, and Lotus, are all suggested for trial.

Among "foreign plants," the report alludes favorably to the Guinea and Tussock Grasses, and, of "fibrous" productions, Manilla Hemp; the Cochineal plant, and Madder, are recommended for trial.

The Tea plant, new varieties of Cotton, and Sugar-Cane, the Boxwood-tree, the European Sweet Chestnut, several varieties of Oaks, as the Edible, the Kermes, the Gall-Nut, with the Date and Tamarind-trees, the Frankincense, or Olibanum-tree, the true Balsam of Gilead (*Amyris Gileadensis*), Gum Arabic, Mastic, Quassia, Senna, Rhatany, and Bunya-Bunya, or Araucaria Bidwillii, are all suggested as possible to introduce, every introduction rendering us more independent of other countries. Let all who have opportunities give some attention to these matters; it will be a pretty addition to the pursuits of the country gentleman, attended with the consciousness of doing something in his day and generation.

The book treats of insects, fertilizers, and a thousand things of interest to the farmer and gardener. The mechanical volumes we must leave to other pens.

Manual of the Botany of the Northern United States. Second Edition. By Asa Gray. New York: Putnam.

As horticulturists, we may be proud of the want which has called for a new edition of this well-known work. The author, we need scarcely remark, stands at the head of the science as an authority, and, in the getting-up of our catalogues and lists of plants and trees, we should be glad to see this work generally recognized as the standard of nomenclature. At present, we suffer much from a confusion of names. In a catalogue now before us, emanating from a house we should have supposed knew better, we find "Zizyphus volubilis, fifty cents," and, in another page of the *same*, "Berchemia volubilis, seventy-five cents"—both names having been given, by different botanists, to the same plant. A work like this under review, has become essential to every nurseryman who would keep pace with the high character his business is now attaining, not only for the detection and avoidance of errors like that alluded to in our friend's catalogue, but also to enable him to obtain the information of the plants and trees of his own country, every nurseryman of any pretension ought to possess.

Looking at the work horticulturally, we are disposed to join in with those botanists whom the author tells us "may find some reason to complain of the general omission of synonyms;" but, in reality, the work is not so very deficient in this respect. For instance, in describing Magnolia umbrella, he tells us it is the same as M. tripetela, and M. Frazeri the same as M. auriculata. Changes similar to these are very common throughout the work, and it will take a great deal of "nerve" to make our catalogues correspond with them, as the rejected names are so widely diffused; but, as these names are generally acquiesced in by botanists as the more correct designations, it will be easier to correct the errors the loose descriptions that Pursh, Michaux, and Rafinesque, have bequeathed to us now, than at any future time.

In looking carefully through the volume, and comparing the list of the most beautiful of our native trees and plants with our nurserymen's catalogues, we are disposed to hold a higher opinion of our cultivators' tastes in the matter of "natives" than we think is generally assumed. Though there are certainly some very fine things yet to be brought under cultivation, there is not a greater number of neglected beauties in proportion to the extent of our flora, than could be found in similar comparison with a foreign catalogue and the flora of its proprietor's country. We are pleased to note this, especially as we know that the taste for our own beautiful trees is daily increasing.

With regard to the manner in which the author has completed his task, it scarcely becomes us to pass an opinion. To our mind, however, some of the kinds he has thrown together as being specifically identical, or mere varieties of

the same species, we should hold distinct; while others which he regards as distinct, we should imagine to be of the same species.

Betula populifolia, for instance, seems to us to be divided from B. alba by far more marked characters than divides *B. excelsa* from *B. lutea*. *Quercus olivæformis*, Dr. Gray considers to have been made out of an immature specimen of *Q. macrocarpa*. We have an opinion that *Q. bicolor* also has a strong leaning that way also. To a practical man, the leaves of the oaks afford but little opportunity of readily distinguishing the species. *Quercus tinctoria* and *Q. coccinea*, for instance, we have found to run into each other in every character, except that the flesh of the acorn is, in the Black Oak, orange, and, in the Scarlet, white. The leaves of the Black Oak do not, we believe, ever turn scarlet, but the other kind has not always got them so.

We have only to say that, though strictly a botanical work, we cannot do a better service to the gardening world than to recommend every lover of trees or plants to procure and study a copy. The price we paid for it was two dollars.

Strawberries.—The advertising sheet contains an important notice from Samuel Feast & Sons, of Baltimore, of their purchase from the executors of the late Dr. Edmondson, of his new strawberries, which are now for the first time offered to the public. They have obtained celebrity from the reports of the few who have seen and tasted them—the Marylandica, especially. The Camellias also will attract attention from our numerous readers.

Graperies.—Our correspondent, William Saunders, advertises to construct graperies on terms which must command numerous customers. Four dollars and a half for each running foot is so reasonable, when combined with Mr. S.'s experience, that we ask the attention of our readers to his propositions.

(Grapes). An answer respecting the best grapes for a grapery, will be given next month.

The Winter Contest.—The following lines will be understood and appreciated by many of our readers. It is almost needless to say they are by Cowper:—

"Grudge not, ye rich (since Luxury must have
Her dainties, and the World's more numerous half
Lives by contriving delicates for you)—
Grudge not the cost. Ye little know the cares,
The vigilance, the labor, and the skill,
That day and night are exercised, and hang
Upon the ticklish balance of suspense,
That ye may garnish your profuse regales
With summer fruits brought forth by wintry suns.
Ten thousand dangers lie in wait to thwart
The process. Heat, and cold, and wind, and steam,
Moisture and drought, mice, worms, and swarming flies,
Minute as dust, and numberless, oft work
Dire disappointment, that admits no cure,
And which no care can obviate. It were long,
Too long, to tell the expedients and the shifts
Which he that fights a season so severe
Devises, while he guards his tender trust;
And oft, at last, in vain."

TWO LITERARY SALAD-BOWLS.

"Salad for the solitary"—Lettuce alone!
"Salad for the social"—Lettuce be merry!—*Punch*.

EDITOR'S TABLE.

The Journal of the United States Agricultural Society for 1856—edited by the Secretary, William S. King—and the *Transactions of the Pomological Convention*, held at Rochester, last fall, have been kindly sent to our "Table" by the Hon. M. P. Wilder, at the moment of going to press. The first is all that it ought to be; the tone of the whole is earnest, manly, and praiseworthy, and shall receive further notice. The Pomological *Transactions* are important, and we shall endeavor to impart to our readers everything of value that has not already been copied in these pages.

Both transactions may now be procured from the State Agricultural Societies, the Horticultural Societies, or, failing in these, by addressing Hon. M. P. Wilder (with stamps, we should hope), Boston, Massachusetts.

PHILADELPHIA, Dec. 12, 1856.

MY DEAR SIR: Can you announce in the February *Horticulturist* something like the following? The Native Fruit Committee consists of—SAMUEL WALKER, of Roxbury, Mass.; L. E. BERCKMANS, of Plainfield, N. J.; C. M. HOVEY, of Boston; P. BARRY, of Rochester; J. B. EATON, of Buffalo; A. H. ERNST, Cincinnati; and your humble servant. You will therefore perceive that some of the ablest pomologists in the United States are members of this Committee. Very truly yours, W. D. BRINCKLÉ.

J. JAY SMITH, Esq.

AMERICAN POMOLOGICAL SOCIETY.—We learn, officially, that, in March next, the Committee on Native Fruit of the American Pomological Society, at the request of the Hon. Marshall P. Wilder, President of the Society, contemplate issuing, probably quarterly, *Intermediate Native Fruit Reports* on such new native fruits as may be sent to any of the Committee for examination, or may in any way come under their notice. These reports will be published simultaneously in the leading horticultural journals. Each member of the Committee is requested to transmit, monthly, the memoranda he may make on this subject to Dr. Brincklé, of Philadelphia, Chairman of the Committee. (See March *Horticulturist*.)

PEARS.—Dr. J. M. Ward has exhibited to us some Vicar of Winkfield Pears that exceed, in size, any we have seen. Five of them weigh over six pounds, and they are as delicious as they are fine looking. They are a portion of those reserved for competition, awaiting, beyond the specified time, the acceptance of a challenge for the production of a better lot, which nobody entered the arena to claim. Notwithstanding assertions that Dr. Ward's trees were neither properly planted nor properly cultivated, he does produce the veritable article.

What is the reason that, with sales for many past years of millions of dwarf-trees, pears are still so scarce and high-priced, is answered by one of our valued correspondents thus, but it is scarcely satisfactory:—

"He who has ten or twelve pear-trees in his garden, is commonly situated as follows: Two or three cooking pears; five or six worthless varieties; and the balance, varieties that do not thrive upon the quince (although budded upon it), or grafted upon pear stock, which

throws out limbs, limbs, limbs, and roots (if not suckers), till the other poor trees are overshadowed; all that, badly planted, badly pruned—*if* pruned at all—near hard walks or fences, surrounded with grass, weeds, raspberries, currants, flowers, &c. But, suppose no great mischief is brought upon the trees by children, animals, or the shadow of some tall elm, or other forest-tree, what then? More than one-half of the fruit is picked wilfully or playfully by children, servants, &c. &c.; and if, by great care, the busy man (never at home) succeeds in *ripening* some, is there one of these that can decently go out of the family? Wives, daughters, and inmates, would rather see their preserves and vegetables given away than a Duchesse or Flemish Beauty.

"If you must have pears, raise them yourselves, in gardens out of the reach of *boys*, and other nuisances."

It is true enough that we much depend on our own trees, for a good pear commands fifty cents in the show window; but what puzzles the outsiders, and to which we have no satisfactory answer, is where are all the promised abundance—the barrels that were growing? We admit progress, and rejoice in it, but, that the idea of supplying the wants of our great cities has not yet been realized, we, in common with the public, regret. The past season has been a poor one, it is true, but one would suppose the various climates should have furnished more than have yet been seen. The purchase of a half-barrel of good pears, we have found it impossible to accomplish. Let us, however, live in hope.

Roses.—The finest of climbing roses is the "Cloth of Gold." The finest of yellow roses is the Cloth of Gold. The finest of noisettes is still the Cloth of Gold. And yet how few know it except as a dwarf, grown in a pot or a border, and bearing there a scanty supply of its noble blossoms. Nevertheless, it yields to none in the power of flowering, producing, if properly managed, enormous quantities of golden balls.

So says Dr. Lindley. His correspondents agree in adding, that, to bloom it in perfection, it should never be pruned; and we add, that the plant must have some age to insure a profuse bloom.

Grape-Vine Borders.—Mr. Editor: Though house grapes have been successfully grown without the expensive preparation mostly resorted to, they do repay a liberal outlay, both in the construction of the house and materials for the border. When rich borders so often fail in producing, for any length of time, fine grapes, the cause must be looked for in the position of the border, or want of sufficient porous materials in it to keep it open. Gardeners have difficulties enough in obtaining the means of doing these things as they could wish, and need not a false economy to make things worse.

A Young and Enthusiastic Gardener.

Grafting Geraniums.—A writer in the *Cottage Gardener* says on this subject: "Mr. Peed, gardener to T. Tredwell, had a collection of real curiosity and great interest—one of *grafted geraniums*, thus: 1. *Miss Emily Field*, a blush-white flower. 2. *Kingsbury Pet*, an excellent house plant. 3. *Reidii*, apparently a cross from *Baron Hugel*, alias *Courcy's Princess Royal*, a fine pot plant, grafted three feet high, the two before it not quite so high. 4. *Boule de Neige*, grafted fifteen inches above the pot, and four feet high. 5. *Commander-in-Chief*, five feet high, and grafted four feet from the pot. 6. *Le Titian*, four feet high. 7. *Brilliant* ditto. And 8. *Attraction*, three feet six inches high. A gentleman, of great skill and ingenuity, wrote to me six weeks ago, saying that geraniums would graft as freely as apple-trees, and by the same kinds of grafting; but Mr. Peed grafted all these on the continental plan of cutting off the top of the stock, and splitting the top of it in halves about an inch and a half, or not more than two inches, and wedging the end of the grafts to slip down into

the slit. The union in all of them was perfect. That, in my eyes, was the best triumph at this show."

THE GUAVA FRUITED AT CLEVELAND.—We find the following in the *Ohio Farmer*:—

"*The Guava* (*Psidium Cattlyanum.*)—EDITOR OHIO FARMER.—SIR: I herewith send you a fruit of the Guava (*Psidium*). It was produced by a tree, in my greenhouse, treated with the ordinary care of the tenants of that establishment. As an eatable fruit, it is palatable, somewhat resembling our paw-paws, flavored with the strawberry. For ornament, it is equal to the orange and lemon, and, for both these purposes, it is worthy of attention by the amateur horticulturist. It is the fruit from which the Guava Jelly is manufactured. My tree, about three feet in height, has matured, this autumn, thirteen specimens of the size and perfection of the one before you. In the *Transactions* of the Horticultural Society of London, vol. iv. page 316, is contained a beautiful colored plate of the *Psidium Cattlyanum*, the name under which I procured mine; but as the fruit of the one is of a deep livid purple, and the other a rich lemon yellow, the latter must be either a different species or variety. The former is said to be the only species which will ripen its fruit in a greenhouse; hence I infer that my specimen is a mere variety. Truly yours, J. P. KIRTLAND."

Cleveland, Ohio, Nov. 13, 1856.

We are pleased to hear of this; the fruit is valuable, and may be cultivated successfully at the South; in East Florida, the *Psidium buxifolium* is found near the River St. Johns, but it differs from all other species. The twig is round, covered with a gray bark, and, at near distances, marked with the cicatrices of opposite fallen leaves. The berry is blackish-purple, pear shaped, about the size of a cherry; internally, it is filled with horizontal rows of flat, subveniform, pale, bony seeds, with a narrow embryo curved into the form of a horse-shoe. This species is nearly allied to the purple-fruited Guava, P. Cattleianum (not Cattly-anum, as the *Farmer* has it), scarcely differing in anything but the smallness of the leaves and the pyriform fruit, though the leaves of the purple Guava, besides being much larger, are also pubescent when young.

Most of the species of this genus are cultivated in the tropics for their fruit. The *P. pyriferum*, or Common Guava, bears a fruit about the size of a hen's egg, yellowish, with a peculiar odor; the pulp is rather firm, flesh-colored, agreeable, and aromatic. In the West Indies, it is highly esteemed by all classes, being eaten raw, as Dr. Kirtland indicates, as a dessert, or formed into an excellent sweetmeat and jelly.

Of the fruit of the Purple Guava, to which ours is so closely related, Lindley remarks: "The excellent flavor of its fruit, which is very like strawberries and cream, is far superior to either *P. pyriferum*, *pomiferum*, or *polycarpon*." Mr. Sabine remarks of the fruit of this species, that "it is juicy, of consistence much like that of a strawberry, to which it bears some resemblance in flavor."

Whether the Florida species may become valuable when cultivated, is uncertain, but, in a genus so generally interesting for their fruit, says Nuttall, the "experiment is worth making."

The Guava will now be sought as a useful ornament, like the Eugenia ugni, for its beauty and its fruit.

We possess, too, in Florida, a *Eugenia*, the *dichotoma* or *fragrans*, an elegant and fragrant species not yet introduced. This genus was named in honor of Prince Eugene of Savoy, who was an encourager of botany, and possessed a botanic garden.

THE ORIGIN of Cuba Bast is at length discovered. The substance known under this name has now become familiar to gardeners, in consequence of its general substitution for Russian matting in tying up plants; but nobody could make out what tree produced it. In vain was inquiry directed to quarters where information on such points might have been expected

to exist. Sir William Hooker, by diligent inquiries, has ascertained that it is produced by a West Indian tree, described, years ago, by Swartz under the name of *Hibiscus elatus*, and which seems to be nothing more than a variety of the common *Hibiscus tiliaceous*. A full account of the discovery is given in the new number of the *Journal of Botany*, from information collected from Mr. H. Christy, Mr. Scharfenberg, and Mr. Wilson, the Superintendent of the Botanic Garden, Jamaica. There is, therefore, some hope that this useful material may now be sold at a lower price than it bears at present.

Firewood.—Firewood is becoming scarce in Wisconsin and Illinois. The enormous consumption of it by railroads is fast exterminating the forests of our country. Two years ago, the price of cord-wood at Sodus Bay, N. Y., was $1 50 per cord; this year, Canadians from Toronto came over and purchased all that could be furnished for $2 50 per cord.

It will soon be worth while for our cultivators to turn their attention to raising trees expressly for the supply of many of our towns with firewood. At present, wood is worth prices averaging $5 per cord, in Philadelphia. An acre planted with cherry—excellent firewood, and a very rapid growing tree—would be worth, at a rough estimate, $200 in ten years. As there are many tracts of land utterly useless for agricultural purposes, it is well to consider whether this sum per acre, without any labor, is not worth waiting for? P.

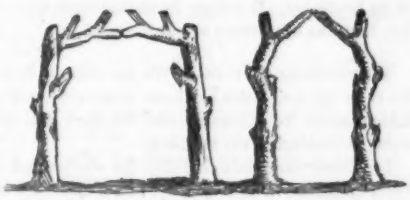
Gossip.—In a quaint old book by Gabriel Thomas, will be found the following description of Philadelphia when it was a mere village: "In the said city are several good schools for youth, for the attainment of arts and sciences—also reading and writing. Here is to be had, on any day of the week, cakes, tarts, and pies; we have also several cook-shops, both roasting and boiling, as in the city of London: happy blessings, for which we owe the highest gratitude to our plentiful Provider, the great Creator of heaven and earth." Let us describe this great city as it now is: In the said city are several small squares of ground called "public squares," for youth and gray squirrels—also for the entertainment of jumping the rope. Here is to be had, on every day in the week, except in winter, when they are shut up, air a little purer only than in the streets, and the sight of a deer, which gores you without charge. We have also belonging to the town a fine site for a park, both for land and water, not improved as in the city of London. Happy blessings, for which we are called upon for the highest gratitude to the great Councils who have *taken us all in*.——India-rubber, now so abundant, was thus noticed in the *Monthly Review*, in 1772: "Our readers, perhaps, who employ themselves in the art of drawing, will be pleased with a transcript of the following advertisement: 'I have seen,' says Dr. Priestley, 'a substance excellently adapted to wiping from paper the marks of a black lead pencil. It must, therefore, be of singular use to those who practise drawing. It is sold by Mr. Nairne, mathematical instrument maker, opposite the Royal Exchange. He sells a cubical piece, of about half an inch, for three shillings, and he says it will last for several years.'"——Chinese proverbs sometimes contain much pith, as for instance: "Let every man sweep the snow from before his own door, and not busy himself about the frost on his neighbors' tiles." Another: "The ripest fruit will not fall into your mouth." And again: "Dig a well before you are thirsty."——A monster pumpkin was raised, last season, in England—a "Citronille," measuring seven feet in circumference, and weighing 150 pounds; previously, one of the weight of 212 had astonished the gazers. As these valuable articles do not keep well after having been cut open, smaller kinds are greatly preferable. The French make great use of these, particularly the Yellow Poitron and the Brazilian Sugar Gourd. A larger weight of wholesome winter food, both for man and his cattle, can hardly be obtained from the same space of ground than from these articles; the tender extremities of the shoots form the best spinach known, though they are little employed in this way in America.——The Truffle is now said,

by a French writer, to be produced by the "truffle fly," which stings the root of the oak-trees, and produces the truffle in the same manner as the gall insect produces the gall-nut; and a Mr. Ravel, of Switzerland, asserts that he can supply the larvæ of the insect; adding that each species of truffle has its own kind of oak and its own truffle fly. We wish some of our insects would produce something as good. But Dr. Lindley poses the Frenchman by asserting that truffles are propagated by spawn in the same way as mushrooms.——The Pampas Grass continues to receive attention abroad, and we have a specimen coming on favorably. On stems nine feet high, it produces noble panicles of flowers; one, in England, had eighteen panicles, and, when it spreads, it will be a fine ornament for a lawn.——There are annually manufactured in the United States 2,160,000 shovels, or about six hundred dozen per day. They are made entirely in this country; about one-third the number in Massachusetts, the rest in Philadelphia, Pittsburg, and other cities. As the shovel is one of the civilizers of the world, the annual demand for that useful article shows how much the people of the United States are contributing, by their labor, towards improving the social condition of mankind.——A new number (the third) of Dr. Hooker's beautiful *Flora of Tasmania* has been issued. The plates consist wholly of composites; the letter-press extends into Ericaceæ.——Pinus Austriaca is found to be an excellent plant for moving; they may be transferred without much risk, nine or ten feet high.——The solution of gum shellac in alcohol, which gardeners employ for covering cuts and wounds in trees, has been used with success, in Westminster Abbey, as a cement to the loose crumbling parts of old monuments, so that the ancient form and appearance are permanently preserved. If melted white wax is carefully run upon marble for the open air, it will preserve it for an indefinite period, the wax being highly indestructible.——Though the name of Sir Janisetjee Jejeebhoy sounds very outlandish, it belongs to a princely minded Parsee in India, who has just given the sum of $50,000 to establish a school of design in Bombay. One of our Philadelphia merchants rejoices in a correspondent thence who has the name of Pah-Butty-Bassy-Baboo, and a very rich Baboo he is.——Two most important points are now attracting the attention of practical people—steam culture, and drying of grain in bulk as soon as gathered; both promise immense advantages, amounting to a "revolution."——A great deposit of copper has been opened, by an earthquake, in New Zealand. A region of about 4,600 square miles was raised in some places one foot, and, in others, much more. A chain of ancient rocks was upheaved vertically, and now forms a cliff nine feet high, which can be followed for ninety miles, exhibiting the veins of copper.——A new process for extracting sugar from all kinds of vegetables, has been published by the Academy of Sciences at Paris; it is the discovery of M. Maurice, that sugar exposed to the action of cold water undergoes a change known to chemists, which prevents its crystallization. A beet-root, dug up and stowed away, is a cone of cold water, and the longer it lies the more is the sugar diminished, keeping it under shelter making no difference; and the same with sugar-cane. The remedy is to crush out the juice at once, discharge it into large cisterns, and throw in a quantity of lime whereby a saccharate of lime is formed which will keep a whole year, and an immense increase of sugar over the old processes is the result.——At Wilton Park, the place mentioned by Emerson, in his *English Traits*, so handsomely, there are some remarkable Cedars of Lebanon—one, the bole of which measures twenty-three and one-half feet in circumference, with a fine head in proportion; there are also several others nearly equally large. Those who have been accustomed to see the South American Orchids grown in a high temperature, would be surprised to see the luxuriance of these plants here; they stand in vineries in which are a quantity of grapes: consequently, they are exposed to currents of air both day and night.——Alfred Delvan has written some curious articles on the trees of Paris. He states that the climate of that city has been unfavorably modified since the destruction of the woods and forests. But his most novel speculation asserts that man

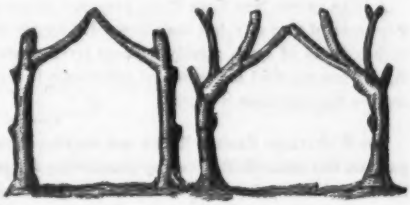
requires poetry and health to contrast with his physical and moral destitution; he lives better in the open air than in badly ventilated houses; he lives longer in the country than in towns; terrestrial magnetism acts more directly and more profitably on the peasant than on the citizen, because the latter walks on stone pavement, which is an isolator, whereas the peasant walks with bare feet on the *humus* (the earth), his mother and his nurse. He forgets, perhaps, that the modern Parisian walks almost as much on asphalte as on stone pavements.——The Anemone pulsatilla, and, indeed, all other species, are extremely acrid in all their parts. It causes, when applied externally, or introduced into the stomach, all the effects of acrid and corrosive substances, as violent inflammation, and a stupefying action on the nervous system.——A correspondent describes the park at Hampton Court humorously thus: "The 'park' at Hampton Court was first laid out, like the garden, in the Dutch style, and there are still long avenues with double-planted rows of trees on each side, radiating off from the front of the palace like a pair of tongs with more legs than a pair, with level green sward between them. A few scores of highland 'sturks,' *alias* Scotch bullocks, and some hundreds of fallow deer, graze here at ease and comfort, and shade and shelter themselves in the avenues." He says strawberries are forced there in such abundance, that they are gathered by the bushel for routes and public breakfasts.——All forcing, it will be found, is up-hill work before the days have begun to lengthen.——It is not at all uncommon, in old places, to find magnificent trees so situated, that, instead of being objects of beauty and interest, they are just the reverse—objects of regret. We once saw a splendid Cedar of Lebanon, the trunk of which measured upwards of four feet in diameter, growing so close to the front door of the edifice as to lash the windows with its branches. This, though exceedingly annoying, no doubt still remains a mark of censure upon the hand that planted it. Had this tree been judiciously placed some thirty yards from the building, instead of being offensively troublesome, it would have been highly interesting, and the admiration of every one.——Attention is largely attracted to a new disinfecting powder, invented by a Mr. McDougall, the composition of which is yet a secret. Farm-yard manure, in the worst stage of noisomeness, was turned over in presence of a great many observers, and the odor disappeared almost instantaneously on the application of a slight sprinkling of the powder.——It is not generally known that the cajeput oil of India is obtained from trees very similar to the common Melaleucas, and that even from the leaves of the Eucalypti an oil can be obtained of equal utility. The sandarac gum, exuding from the Callitris, or pine-tree of Victoria, is now collected in the greatest abundance. An Australian manna is being introduced into commerce, but is of inferior quality to the Ornus manna.——All the gutta percha-trees of Singapore have been destroyed, to procure the gum of commerce, and explorers are in search of new localities; there is said to be five sorts of the gum, produced by different trees.——The death of the late Professor Edward Forbes, of Edinburgh, is considered, by his fellow-laborers in science, as a national calamity. By the time he was seven years of age, he had formed a small, though tolerably well-arranged museum of his own, and, from that early age, he was indefatigable in the pursuit of natural history.——It is a most dangerous experiment to write about things without a practical acquaintance with them. When Oliver Goldsmith, genius as he was, tried his hand at a *History of Animated Nature*—and a very delightful book he made of it—he knew so little of the chief subject of his chapters (that of quadrupeds), that he described the cow as casting her horns annually. There is no information which passes more speedily and thoroughly away from the memory than that of natural history, if it be learned from books only.——Genial Dr. Darlington, who, to extraordinary botanical acquirements, adds the *bonhommie* of an agreeable man, in his *Flora Cestrica*, or *Botany of Chester County, Penn.*, allows the student the benefit of his extensive reading, and enlivens the details of the science by an occasional quaint remark or quotation. We cannot do better than to close our "Gossip" to-day with the

following, taken from that reliable and able book. The doctor has described the Staghorn Sumac (*Rhus typhina*) all in botanical correctness, when he breaks out with the following *observation:* "The fine purple clusters of fruit, on the fertile plant, render it quite an ornamental little tree; and, when planted in the yards and public squares of our cities, it affords an almost literal exemplification of the much admired *Rhus* in urbe!" Of the Naked-Stem Aralia, he says: "The root is sometimes used as a substitute for the sarsaparilla of the shops. I believe both the original and the substitute to be rather *innocent* medicines—*provided* the disease be not serious!" The author is evidently an admirer of Shakspeare; we wish, by the way, some one would collect all the observations of the poet on trees and flowers. The doctor has made a good beginning, and were it not that he is a banker himself, the observations he has appended to Romeo's remark would have less force. He is speaking of the common plantain and the "obs." is thus put: "A naturalized foreigner—remarkable for accompanying civilized man; growing along his footpaths, and flourishing around his settlements. The leaves are a convenient and popular dressing for blisters and other sores—a fact which seems to have been known in the time of Shakspeare, as we learn from his Romeo and Juliet, Act. 1, Scene 2: '*Romeo.* Your plantain leaf is excellent for that. *Ben.* For what, I pray thee? *Romeo.* For your *broken shin.*'" "The plantain leaf," now goes on the doctor, "continued in vogue, for that purpose, from the Elizabethan age down to our own times, when a *substitute* was furnished by the officious empirics who undertook to reform and regulate our national *currency!*" Who would expect a dissertation on *shin plasters* in a severely scientific book? And who is there that is not pleased with the transition from the grave to the gay?

Trees as Arches.—In addition to our illustrations of landscape in connection with tree planting, there is a very simple mode of making a rapid natural arch in garden or shrubbery walks, which will be appropriate in almost any scene. The trees must be adapted by the character of their branching limbs, and once established at proper points, the limbs are pruned as represented.



Treated in this way, they form umbrageous bowers, and may serve the double purpose of arches over walks and shady retreats; for, having lost their leading branches, they will grow freely into a compact head. Limes, *tilia*, are suitable for such treatment as well as beech, and even the willows; but elms, maples, and most free-growing trees, will serve the purpose, and become permanent ornaments. Individual taste in the selection and trimming of these arches, may make a great variety; some might be ornamented with Wistarias, and other blooming vines.



Lippincott's Pronouncing Gazetteer of the World.—A correspondent from Illinois, last month, said: "Maps are far behind the age so far as they have a reference to the West, where towns spring up even while the binder is putting the gilt trimmings upon his *splendid*

large atlas." We remarked that map publishers are continually making efforts to remedy this. If *they* do not catch up always with the incessant *tramp* of progressing civilization, we must call in the aid of the *Gazetteer;* if our friend will turn to Lippincott's great work, by Thomas and Baldwin, we think he will say that not only have the proper men been placed in their proper positions as publisher and editors, but that they have jointly, by the aid of capital, and enterprise, and information, enthusiasm, and perseverance, produced a work that may challenge the world for its compeer. It is a most portly volume, of 2,182 closely packed pages, every one filled with valuable matter, so valuable as to be an indispensable work of reference to all who care to possess accurate knowledge, whether student or merchant; so many improvements have been introduced in this great book, such numerous sources of knowledge have been ransacked to procure the materials, and such indomitable labor has been bestowed upon the contents, that, collectively, it exhibits a mass of human intelligence that it is difficult to appreciate, much less to digest. In geography, it is what Loudon's *Encyclopædia of Plants* is in botany, or his *Arboretum Britannicum;* it is, in short, the greatest contribution to geography we have ever had. Though a town may have sprung up while it was in progress, the information regarding neighboring towns, counties, and States, is so full that no one can venture on making that an objection; but it is here that our editors are so correct; you may take up a post-office book, and find an account of every town in existence, with accurate descriptions of even the number of its blacksmith shops. We commend this work no less to our correspondent than to all the readers of this periodical.

TAXODIUM SEMPERVIRENS.—Our European readers, and those of our Middle and Southern States, may have noticed, in our advertising pages, last month, an opportunity to provide themselves with seeds of this fine Californian tree. North of Philadelphia, we are doubtful of its hardiness. It is time its character, in this respect, was more generally known. What has been the experience of our friends?

WASHINGTONIA GIGANTEA.—We are assured by letters from California, that a new locality for these gigantic trees has been discovered, and thus the fears of the public lest the few known would be destroyed, and the most extraordinary tree would be lost, at least to the view, for centuries, are needless.

Dr. Torrey examined critically the circles and rings in a complete radius of a Washingtonia exhibited in this country, and found they were 1,120 in number. The facts showed that the tree lacked about three centuries of being half as old as it was said to be. Its size is rather owing to its continued rapid growth.

A PLAN OF THE NEW YORK PARK, prepared by our correspondent, A. G. Baumann, Landscape-Gardener, of that city, has been forwarded for our inspection. This park is a parallelopipedon of hundreds of acres, mostly without river scenery, but Mr. Baumann has made much of it, and interspersed his trees and ornaments in a judicious manner. We trust his plan will receive the attention it merits.

THE SCHUYLKILL PARK.—Efforts are making here to redeem our character by creating a park on the Schuylkill River, by purchasing the property adjoining Lemon Hill, and uniting the two—in fact, the space of about one hundred and ten acres between the two waterworks belonging to Philadelphia. The intention is to purchase the new property, improve the two in unison, and to present the whole in a finished state to the citizens; a noble enterprise, indeed, and one which may be executed for four months interest on the New York investment. Our park will present a most attractive undulating surface of 110 acres, and be bordered on one entire side by the most picturesque of rivers. Shall we fail?

ANSWERS TO CORRESPONDENTS.—(B. W.) Your plant is Dictamnus, an ancient name of what is now supposed to be the Origanum dictamnus; *Fraxinella*, in allusion to the similarity between the leaves of the plant, and Fraxinus, the ash. The whole plant, especially when gently rubbed, emits an odor like that of lemon-peel, but, when bruised, it has something of a balsamic scent. The fine scent is strongest in the pedicles of the flowers, which are covered with glands of a rusty-red color, exuding a viscid juice or resin which exhales in vapor, and, in a dark place, may be seen to take fire. The root furnishes an opiate and drastic.

MR. EDITOR: Not the least valuable part of your periodical is that devoted to answering the questions of correspondents. Those answers are often useful to others than those who make the inquiries. Encouraged by your success in assisting other inquirers, and acting on the principle that editors are presumed to know everything, I will propound a few questions on subjects on which I desire to be enlightened.

I have in my yard a place which would be a good position for a large and showy tree; but it was formerly the cellar of a house, now filled up with the stone, and sand, and lime-mortar, which were thrown into it when the house was pulled down, and covered over with about a foot deep of earth. Now, what tree would thrive there? I would prefer an evergreen. Would the Deodar Cedar do? (1.)

Should larches be trimmed up, or should they be allowed to branch from the ground? (2.)

At what distances should Norway spruces and hemlocks be planted apart? (3.)

A SUBSCRIBER.

(1.) The larch would do better in such a situation than any other tree. It would suit the Deodar Cedar very well, provided you are in a region where it is hardy. For a grape-vine, it would be excellent.

(2.) If you grow the larches for the sake of their timber, judicious pruning will be of service to them. If required for ornament, *we* would not "trim" them; but that is a matter of taste too often spoiled by observing the city trimmers.

(3.) With what view? If for a hedge, two feet and a half apart is quite near enough; nearer, they starve each other.

(W. B. M.) The seeds sent you from the city of Mexico, under the name of the "Hand Plant," is known to botanists as *Cheirostemon platanoides*, and grows there to a large shade tree. Its English name is derived from the shape of the flower buds, which, in their resemblance to the human hand, are remarkable. If you do succeed in raising the seed, you will find no greenhouse large enough to hold it, and we can afford you no encouragement in the hope that "it may prove hardy here."

J. JAY SMITH, Esq.—DEAR SIR: A Washington letter-writer in the *Traveller*, comparing the Chinese sugar-cane with that grown in our Southern States, and referring to the mode of propagating the latter (by cuttings), says: "In the case of all plants propagated by cuttings, there is a constant deterioration; so that, in many parts of the South, the growth of cane is not over two-thirds what it was some years ago, and that on an equally fertile soil." Is this principle correct? If so, what is to become of our quinces, and some other trees propagated mainly by cuttings?

R. J. B.

The principle is not correct. Some years ago, it was *supposed* so by some physiologists, because some kinds of plants were showing signs of decay that had mostly been propagated that way. We might with as much reason say, "all the American buttonwood that we have seen diseased were seedlings; therefore there is a deterioration in all plants raised from seeds." Is the deterioration noticed in western districts once famous for their wheat crops, to be attributed to its being always a seed crop? We sometimes jump at conclusions when it would be safer to travel slower.

SAINT CATHARINES, C. W., Dec. 15, 1856.

SIR: A great number of fruit-trees have been destroyed in our part of the country, during the past year, by mice. I have planted an orchard, this fall, of peach and apple-trees, and find the mice commencing their depredations. Can you inform me of a remedy? And also, if what I have done is likely to prove one, viz: smearing the stem, with tar from gas-works, from the ground to about one foot up? Is the gas tar an injury to trees?

Yours, obediently, JAMES TAYLOR.

There is a singular difference of opinion amongst practical men as to whether gas tar does or does not injure trees applied in the way you suggest. We have applied it to prevent the attacks of the peach and apple borers, smearing the stems below, and two inches above the ground, achieving our object, and without the slightest perceptible injury to the tree. Yet we know cultivators whose opinions and statements we place full reliance in, who say that their experiments with it *have* injured their trees. It is an excellent means of preserving trees from mice, and, to be on the safe side, tie coarse paper or leather round the stem, and tar *that*. Scatter, besides, as our friend—Alan Corson—recommends, a few prunings under the trees. They will eat these when the desperation of hunger might otherwise, perhaps, encourage them to brave the tar.

(BREVITAS.) We are afraid we hardly comprehend your question. A "list of the principal vegetables, with the soil and manure suited to each," would go far to exhaust a complete treatise on kitchen gardening. If we understand your want correctly, we could not do better than recommend you to procure Buist's *Kitchen Garden Directory*. You will probably succeed very well with your melons—provided you do not get them too weak by keeping them too long in your hotbed, or too far from the glass.

CATALOGUES, &c., RECEIVED.—*A Statement of Facts*, showing the Advantages and Profits of Thorough Drainage. Albany, New York, January, 1857. A most important topic, ably illustrated, and distributed *gratis*, by the Albany, New York Tile Works.

Register of Rural Affairs, and Cultivator Almanac for 1857. A most valuable publication, and illustrated; full of information to the farmer and gardener.

Twenty-Eighth Annual Report of the Natural History Society of Montreal. Montreal, 1856. A useful and enthusiastic Society, the proofs of whose ardent labors in the cause of science are here chronicled.

Fair-Mount Park Contributions. A pamphlet giving the leading views of the gentlemen associated for the purpose of giving a noble park to Philadelphia, which we have noticed elsewhere.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Vines, Evergreens, Greenhouse Plants, &c. &c., cultivated and for sale at Fruitland Nurseries, Augusta, Georgia. By D. Redmond. An excellent collection, and the catalogue well considered.

Catalogue Général des Vegetaux Disponibles dans les Pépiniéres de E. Defossé-Thuillier, Orleans, France. A French priced catalogue, of merit, with the articles reasonably low.

An Address before the Chester County Agricultural Society, at West Chester, Pa. By John B. Biddle, M. D. Too short by one-half.

Catalogue of Tree and Shrub Seeds, for sale by J. R. Ray, No. 90 John Street, Sacramento, California. This is a large list, indeed, and though we notice but few of the indigenous trees and shrubs of California, we trust Mr. Ray will find it to his interest to collect them, and thus answer the many calls he would have from Eastern nurserymen.

Etablissement Horticole de Pradel Pére et Fils Ainé. A. Montauban, France. Rosiers, Geraniums, &c.

The Catalogues of the Rose Hill Nursery, Woodstock, Vermont, includes fruit and flowers,

and especially, among the latter, roses. Mr. Luther Briggs, proprietor. Mr. B., in a private letter, thinks his climate, with the thermometer occasionally as low as 25° below zero, an uncomfortable, if not an unfortunate one, and asks for information of what will grow in such a region. In the last December number he will find valuable hints, in a letter from Canada, as to fruit; for flowers and shrubs, we shall endeavor to furnish further matter for his consideration; *here* we also have much to contend with, but, by careful experience, we are becoming acquainted with what suits our also very cold latitude; it often happens, however, that what we had once considered "perfectly hardy," is "lost to our hopes," though "to memory dear."

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, and Bedding-out Plants, cultivated and for sale by W., T., and E. Smith, at the Geneva Nursery, Geneva, N. Y. A very valuable collection, made with judgment and taste, and an interesting catalogue.

CINCINNATI.

EDITOR HORTICULTURIST: Your Western readers have been much gratified by the descriptions given in your valuable journal of the splendid country-seats on the Hudson, and in the vicinity of some of your Eastern cities. They would be still better pleased if you could find leisure to make them a visit, in company with some of your friends, during the ensuing spring, and see what they are doing out here for the cause of *horticulture* and *landscape-gardening*. They can promise you nothing to compete with their Eastern brethren in these beautiful adornments of the earth, but they can assure you of a hearty welcome, and will be happy to show you their first efforts in embellishing their grounds, and in the cultivation of fruits and shrubbery—all of which are as yet but in their infancy in the West.

But they have a climate and soil, and, in many parts, a surface admirably adapted to show such cultivation to the best advantage, and to display the skill of the landscape-gardener. Kentucky, with its many fine, park-like, grazing farms, is especially fitted for such improvements. The wealth and the will are there, and all that is wanted is a few tasteful examples, to make it one of the garden regions of the West.

In the vicinity of this city a good beginning has been made, and it will be pursued with much spirit and taste. The Horticultural Society and your journal have done much to bring this about, and a visit from you, with an interchange of opinions, would do more.

Respectfully, B.

[Inclination, and favorable remembrances of some of the fine scenes in Kentucky, would lead us to such an excursion, and possibly time may be found, in May next, to respond to this and other truly kind invitations for a view of the park-like scenery of the West. We know that Kentucky possesses a good climate and great natural advantages; that grass grows under its noble trees; and our *Parkomania* would be greatly excited by revisiting scenes now almost obscured in the light of memories not lost, but dimmed by time.]

THE VALONIA OAK.—J. JAY SMITH: In Leroy's sale catalogue, the "Valonia Oak" is given as the common name of the *Quercus Ægilops*, and in the *Hortus Kewensis* edition, 1813, the French name of that species is given from *Voyage d'Oliver* as *Chene valain*, and the English name, "the great prickly cupped Oak, or Velanida-tree." The description of the species from the leaves and fruit is given in *Hortus Kewensis* from Wildenow, and may be used to determine whether the acorn from the Trojan plain is the fruit of the Q. Ægilops, which seems probable, especially as the species is native of the Levant.

Respectfully thy friend, ALAN W. CORSON.

I expect a tree of that species in the spring; very possibly to add to the many introduced that are too tender for our climate. I believe it is deciduous, and have more hope of its hardiness than of any evergreen oak. A. W. C.

Calendar of Operations.

FEBRUARY.

BY WILLIAM SAUNDERS.

Vegetable Garden.—The terms "subsoiling" and "trenching" are frequently misunderstood as referring to the same operation. Subsoiling implies a mere stirring or loosening of the subsoil; whereas, trenching means a reversion of the surface and subsoil. By "surface soil," we mean the top six or ten inches, usually cultivated with the plough or spade. Trenching is the most permanently useful process, as, if the subsoil is poor, it is thus brought to a position where it can be improved. Keeping the good soil at top, in order to encourage the roots of plants near the surface, is only half cultivation. It would be difficult to assign a limit to the extension of roots in a well drained, aerated, and thoroughly cultivated soil. On the contrary, we know that vegetation on such soils continues in luxuriance during the dryest and most parching seasons. This fact cannot be too prominently kept in view. Draining is the foundation of all improvement in culture. Draining tiles are now easily procured, and if your ground does not *appear* wet, and you dislike the word "draining," call them *air tubes*, and consider your object to be underground ventilation. Trenching should be performed in the autumn, that the winter frosts may pulverize and disintegrate the newly turned up soil. It will seldom be found so pernicious as to be unproductive after such exposure, although subsoils abounding in oxides frequently require several winters to bring them into a congenial state; but such are exceptions.

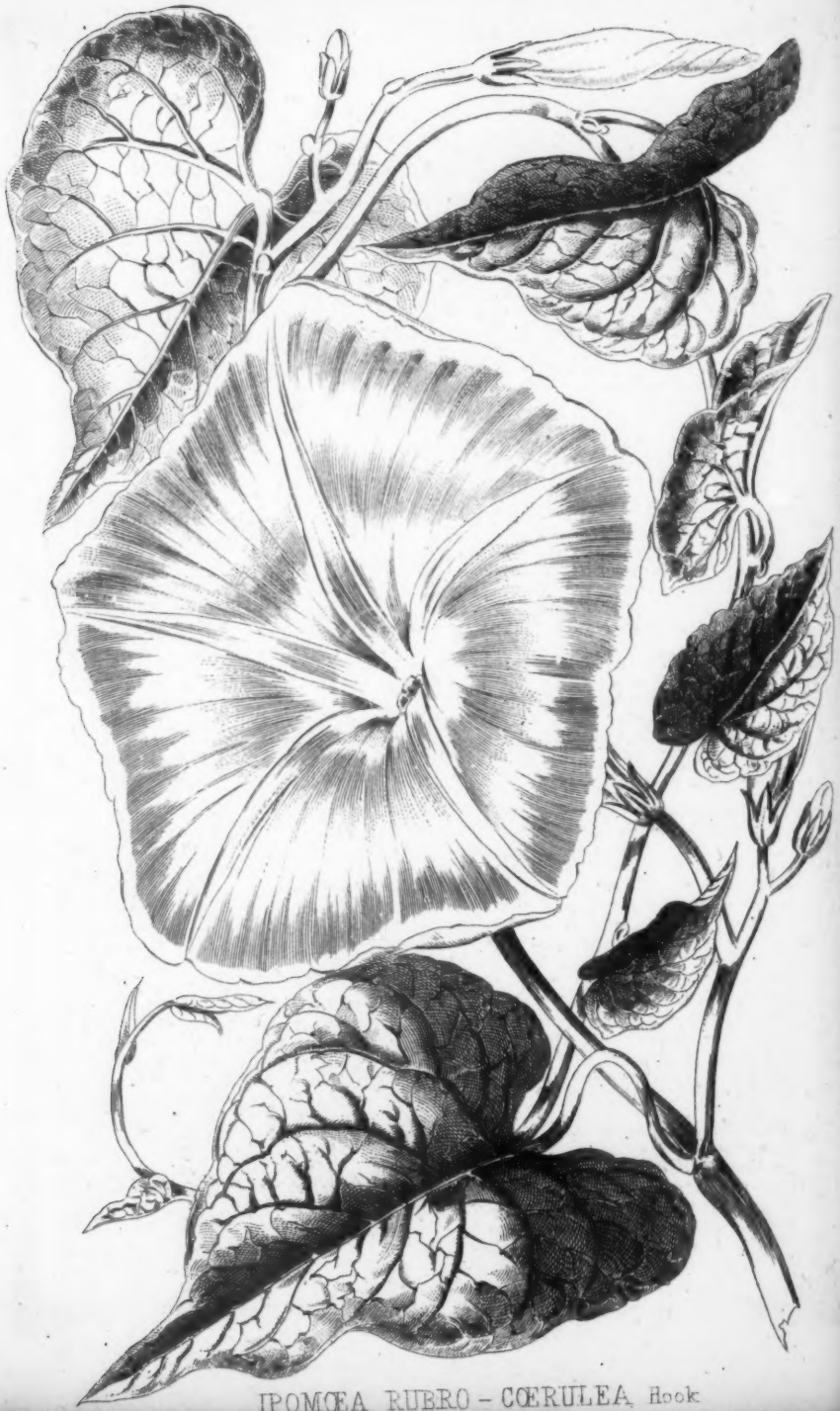
Fruit-Trees.—An evil that has been observed to follow early winter pruning, is the great evaporation from newly-cut surfaces. The effect will be noticed in the complete shrivelling of the terminal buds on pruned branches. Pruning is frequently deferred till spring, in order to avoid the effects just noticed. Evaporation, in such cases, may be prevented by covering the cut surface with a paint of gum shellac dissolved in alcohol. All fruit cultivators should be provided with this preparation, for the covering of cut surfaces, and accidents to the bark of trees.

Pruning.—Never cut a branch until you can see a satisfactory reason for its removal. In thinning the branches of old neglected trees, endeavor to do it regularly, so as to preserve a well-balanced head. Young, stunted trees should be pruned well back, and all fruit buds picked out. On the other hand, those that have made strong growths should be sparingly pruned, and, if the upright centre shoots are vigorous, and the lower side branches weak, the latter should be pruned close, and the centre shoots reduced in vigor by pinching the young shoots during growth; pruning them severely now, will only increase their future vigor.

Grapery.—It is now acknowledged that the *making* of grape-vine borders has, in many instances, been overdone. Soil that will produce good cabbages, will produce good crops of grapes, provided it is thoroughly aerated, as recommended in former calendars.

Greenhouse.—Continue to shift into layer pots, young plants of fuchsias, calceolarias, &c., and repot generally all plants that require changing. A soil composed of rotted turfs will answer for all purposes; use it without sifting, and let it be rather dry than otherwise. Plants that have hard, matted balls of roots, should have the fresh soil pressed as hard as possible, otherwise the water will pass through it without benefiting the plant; many plants die for want of attention to this point. The pots should be clean, and two or three handfuls of broken pots or small charcoal put in the bottom for drainage. Plants that are put in large pots, as camellias and azaleas that have attained a desirable size, and are likely not to be disturbed for a time, are all the better for having two or three long strips of charcoal that will reach from the drainage to the surface of the soil in the pot, inserted while undergoing the potting operation. This will prevent solidity in the soil, and insure a free circulation of water and air to the roots. To prevent worms and insects from entering into the soil through the drainage, a small piece of perforated zinc may be placed in the pot before arranging the material for drainage.

Flower Garden and Pleasure Grounds.—Where the weather will permit, much may be done in preparing for planting, and the formation of lawns. Holes may be prepared for trees, and ground trenched for intended lawns. In making roads and walks, do not dig out deep ditches, and fill up with stone. From nine inches to a foot will be sufficient depth for carriage roads. Break the stones quite fine at the surface, and cover lightly with gravel. Procure gravel, if possible, of a tenacious, irony nature, that will consolidate chemically. No amount of mechanical pressure will form a solid road of gravel or sand, at least for carriage use; the materials must be of a binding nature.



IPOMŒA RUBRO-CŒRULEA, Hook

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